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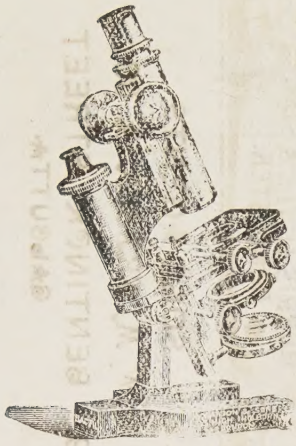

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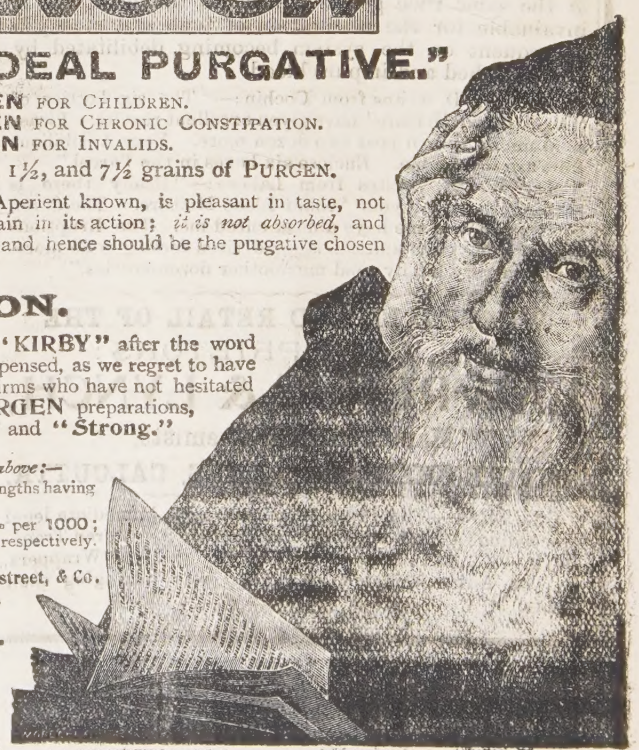

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ELECTRO-THERAPY IN EPITHELIOMA.

By W. T. PARROTT, M.D.

In presenting this short paper I shall only deal with expithelioma and its best method of treatment, i. e., the electro-therapeutic method. In arriving at such a conclusion, a comparison of the various methods from the almost prehistoric arsenic paste down to the days of aseptic.

Extiration has convinced me that the X-ray combined with the judicious use of the Minim light and other accessories is by far the safest, best and most permanent method. Failures have and will occur, but in most cases they are due to faulty diagnosis and improper use of electricity, A careful study of the neoplasm, both micro and macroscopic, can only enable a man to state accurately that he has cured a genuine cancer with any method. Clinical symptoms are not alone sufficient and many a medical man has cast opprobria upon the profession's ability to deal with cancer by an improper diagnosis and permitted the quacks to enjoy the reward in curing exuberant granulations. I am not desirious of the sobriquet "Cancer Doctor," but it behooves medical men to wake up to the fact that this class of cases have been sadly neglected and can be dealt with in a scientific manner. Snap diagnosis and careless treatment has forced many unfortunates to the tender mercies of the quacks and a premature grave. Out of impricism and ignorance the microscopic has lifted us and electro-therapy limited surgical measures. It requires a great deal of time and patience to properly employ electro-therapy, however, and the unfavorable experience of the tyro must not be taken as a criterion of its worth. The average medical school does not give in its curriculum sufficient instructions in electricity to enable its graduates to employ electricity judiciously, and the man who attempts it from a theoretical knowledge is usually disappointed.

Of the two great groups of epithelioma, those of the tubular variety give us the greatest trouble in treating. Those of the flat-cell variety is usually more amenable and not so prone to recurrence. In the use of X-ray to this class, auto-infection is at times a very dangerous complication and sequelæ and demands like a burn an abrupt termination of treatment. The patabolic effect of the rays on the sloughing neoplasm throwing into the lymphatic circulation so much sceptic material as to prodnce sudden and distressing constitutional symptoms. The patients may seize suddenly with rigor, then fever of a characteristic curve and with diarrhœa and depression gives us a typical picture of sceptic fever. As a rule, however, no sudden onset of symptoms develop but appear more insidiously. Patient's general condition should be noted carefully and temperature as closely taken as in typhoid. I nearly always put cancer patients on nutrient tonics two or three weeks before beginning treatment, especially as they usually come with the emaciated cachexia. My preference is a solution of peptonate iron, arsenic and maganese, given after meals in milk, combined with the eliminants and careful daily cleansing of the neoplasm. A fact very hard to explain, that the constant use of X rays is prone to produce epithelioma on the workers hand, if unprotected and amputation has in a recent notable instance been necessary. Following the first law of nature, the operator should in all instances protect his own hands, especially in prolonged or continuous treatment. Physiologically, the first noticeable effect of X-ray on the neoplasm is stimulant followed by intro-cellular disarrangements and generation, then absorption, and finally recovery of the tissue to its normal state.

It is in this lymphathatic absorption that we are most interested when symptoms of intoxication supervene. Five very important, and I might say, cardinal, considerations present themselves in the X-ray treatment of epithelioma.

1. The differential diagnosis of the tumor at hand.

2. Its location, which if superficial, a tube with a three-inch spark length should be used, though if lesion deep, a five-inch spark must be employed.

3. The distance is a very important consideration and should never be greater than ten inches to begin with, carefully noting effect and treatment discontinued at first appearance of dermatitis in surrounding tissue.

The physio-chemical change in the neoplasm varies directly with the duration of the exposure and inversely with the square of the distance of the tube's center.

The fourth great consideration than is the duration of seance. Note carefully any idiosyacrosy existing in patient, and if no harm results in two full weeks after first exposure, treatment may be begun again; this time every fifth day, gradually bringing the treatment down to daily sittings. It is a good plan to let your patient severely alone upon first appearance of dermatitis, and only begin again when symptoms are entirely gone. In two cases when a rather severe dermatitis was produced, I obtained a most happy effect from the minim light, and as the anæmic action of this agent very prompt, I consider it valuable in treating an X-ray burn. I was enabled in these cases to restore the skin to its normal condition and began treatment again much earlier than if the best soothing lotions had been employed.

5. Tissue surrounding the tumor should in all cases be thoroughly protected. I employ tinfoil on patient and consider it a better way than to protect tube, except at convergence rays. Both plans might be used conjointly, however.

I have the honor here to report tersely four typical cases of epithelioma treated with the X-ray and the minin light.

Case I.—Gentlemen, age 65. Seen first in June with tumor size of two king marbles on left face. Occupation shoemaker Family history positive as to epithelioma. Patient himself had cancer in 1887. which was removed surgically. It was situated near present one on left face. He was very much emaciated, with characteristic cachexia, growth of tubular variety. Much pain which was only controlled by morphia and local application of cocaine. He was put on tonics, eliminants, and general supportive treatment. A week's application of the minin light, given an hour at each seance reduced the pain so much that his anodynes were almost entirely discontinued. On August 1st, he began on the rays, with a high vacuum tube, ten inch distance for ten minutes. After two weeks no dermatitis resulting, he was given the rays every fifth night, the minin light alternating. Gradually (all symptoms of pain, itching, etc., gone) he was given a daily treatment, although no reduction in size of tumor resulted until October 1st. when some reduction in size was noted. Near the middle of the month marked symptoms of autoinfection arose. Slight chill, fever, and quick sweats forced us to abandon treatment. Under rest and treatment improved, and the rays again cautiously applied. The reduction in size of tumor from now on to January 15, 1905, was very gratifying, both to physician and patient, but on this date a severe burn resulted—the patient losing a small area of his whiskers. The reduction in size of tumor went on under the use of the minin light until February 15th, when we began the rays again, it was almost entirely gone. On March 15th, he was discharged, cured, and but for the slight area of hair which was destroyed on the face, nothing was left to show that an epithelioma ever existed. His cachexia is gone and there is a marked improvement in his general condition. At a recent meeting of the Lenoir County Medical Society attention was call to the advantage of the electrical treatment over surgical removal, as in the latter a very unslightly scar had been left when his first tumor was extripated in 1887.

Case II.—Lady, age 48; occupation, nurse. Began treatment November 16, 1904, suffering now lancing pain in large tumor on right nose which was rapidly growing, while waiting for the diagnosis. A true epithelioma was made out, despite the fact that the family history was negative. Very cautiously the rays were used weekly, alternating with minin light until her toleration was determined, and on April 26, 1905, she was discharged, cured.

Case III.—Gentleman, aged 46; occupatiou, farmer. Family history cancerous. Some months ago noticed small fissure in middle lower lip which became ulcerated and painful. Came to me December 24, 1904. Had been previously taking antisyphilis, treatment, though no evidence of syphilis were found by me and this was excluded. The neoplasm by this time involved nearly half of the lip and he was promptly put under X-ray and Minin light. He has made a slow improvement since January 15. when treatment was temporarily abandoned on account of a slight burn.

Case IV.—Gentleman, age 48; occupation, farmer. Family history negative. Admitted November 16, 1904. First noticed tumor on left face one-half year ago, which gradually increased in size to that of an acorn. No microscopical examination was permitted, but the increasing pain and clinical aspects led me to believe it epithelioma. He was given the rays, low tube, ten inches 10 minutes, and after two weeks and no surrounding burn resulting, both the Minin light and X-ray were used at shorter intervals. On February 8th, he was discharged, entirely cured.—THE CHARLOTTE MEDICAL JOURNAL.

SOME POINTS IN THE DIAGNOSIS OF GALL STONES.

BY NEIL MACPHATTER, M.D., C.M., F.R.C.S.

Biliary calculi may form and exist in the gall bladder, and frequently in other parts of the biliary passages, without the manifestation of any symptoms whatever. The solitary variety of gall stones when present is usually so large in size, as to be impossible to pass down the ducts, or to become engaged in the neck of the cystic duct. They generally give rise to no unusual symptoms, whereby their presence can be detected by subjective symptoms. It remains latent as a distinct, hard, large tumor. The patient in such cases can sometimes experience a heavy, dragging sensation in the region, and associated with this a certain amount of pain and uneasiness. By examination, such a condition can frequently be detected by the physician, by its distinctly hard feel and rounded shape. If the abdominal wall is particularly thin, this can more readily be detected. Generally they are not definitely localised during life, although the patient complains of vague and uncertain pains at times. The same is true of small calculi. In this case they may be so small as to pass almost unnoticed down the cystic and common ducts until they reach the lumen of the duodenum, when they pass on in the feces, giving no trouble whatever. It is therefore in the two extremes of sizes, large and very small, that few or any symptoms of gall stones are noticed. To a certain degree this is true of medium-sized stones. It is someshat remarkable that in post mortem examinations, the gall bladder is found containing a large number of stones of a size that could pass a certain distance down the tubes, at least, before being gripped tightly, yet during life no line of symptoms of sufficient importance were manifested. The size of a calculus which can escape from the bile ducts, has been variously estimated. Large, soft concretions, which can be moulded into an elongated pencil-shaped rod, will pass down with a lesser degree of pain and discomfort than a smaller one that may be hard and unyielding. A uniformly round calculus, though hard, will on the other hand give rise to less pain and reflex spasm of the muscular fibres than one of similar size that is angular and sharp pointed. The latter, by its projections, sticks into the mucus folds and generally cause an intense degree of pain and disturbance. Occasionally very small concretions, when a number together and passing down the tubes, cause a great degree of pain during their escape; they do so by irritating the mucous membrane, by becoming blocked in places,

There are two points in the passage of a gall stone, where lodgement is most liable to occur. Consequently, it will be while the calculus is endeavoring to pass through these, that the most pain and discomfort are liable to take place. The first is in the cystic duct. This is known as the valve of Heister. The consequence is, that the lumen is very much narrowed and nearly always is the first point of impediment to the progress of the stone, and where the first acute paroxysm of pain is caused. The common bile duct, being composed of the cystic and hepatic is much larger than the cystic. A concretion that will pass through the cystic duct, will with greater ease and a much less degree of discomfort, pass through the common duct, unless some abnormal condition exists in the latter. Thy second narrow point is just where the common duct passes into the duodenum. It is here joined, as already stated, by the pancreatic duct, and together they pass obliquely downwards and inwards through the coats of the bowel for three quarters of an inch. This is the narrowest point in the passage of a gall stone. It not infrequently happens that at post-mortem examinations a number of stones are found lodged here, unable to pass through the narrow point beyond. It is important to remember this, for sometimes the abominal wall is opened with the expectation of finding gall stones in the gall bladder, and investigation is carried no further. It is well to feel all along the ducts and especially in the region of the diverticulum of Vater. It is but natural to suppose that the people of large size will have larger bile ducts than those of smaller stature, and in them the same sized calculus would pass with but a small degree of discomfort, whereas in smaller people it would meet with a greater amount of resistance.

In patients with thin abdominal walls when a sufficient number of calculi accumulate in the gall bladder to cause it to sag below the free margin of the liver, the stones can sometimes be felt by the fingers and their movement against one another easily recognized by manipulation.

The peculiar condition of finding an enlarged and distended gall bladder at one examination, and probably a few days later the distension has entirely disappeared, is interesting. It is usually caused by the impaction of a stone in the neck of the cystic duct acting as an obstruction to the free outflow of the contents of the gall bladder. This distension is caused by the accumulation of mucus secreted normally from the walls of the bladder. The stone in the cystic acts as a ball-valve, and when the distension from mucus reaches a certain stage, it to a certain extent dilates the neck of the cystic duct and causes the stone to fall back into the gall bladder, the accumulation of mucus escapes, and the gall bladder resumes its normal size once more. To the uninitiated, this alternate enlargement and diminution of the gall bladder is extremely puzzling.

Frequently the stone becomes lodged so far beyond in the cystic duct, that it does not act the part of a ball-valve, but remains firmly fixed in the meshes of the valves of Heister. In such cases the gall bladder will not alternately enlarge and diminish, but remain permanently distended. The physical signs accompanying a distended gall bladder, are usually quite easily recognized. The shape assumes the regular pyriform contour of a normal bladder much enlarged. Occasionally it may be sausage shaped. From about the region of the ninth costal cartilage, the fundus will be depressed downward and slightly inward, in a line toward the umbilicus. When much distended and enlarged, the lower part of the gall bladder may reach down even below the umbilicus.

Although the distension of a gall bladder is usually caused in this manner, they are not always so. Not infrequently inflammatory conditions of the mucous membrane of the gall bladder and which may result as the effect of cholelithiasis or other causes, may cause the formation of a quantity of thick, ropy mucus which may cause almost as much obstruction in the cystic duct as a calculus. Another condition which may cause obstruction to the free output of the contents of the gall bladder, is a kink in the cystic duct. When the number of calculi in the gall bladder are sufficiently heavy to cause a slight displacement, it may so drag on the cystic duct as to cause the reduplications of the mucous membrane to approximate tightly and act as a valve, thereby obliterating the lumen for a short distance.

The liver being attached to the diaphragm and the gall bladbladder to the under surface of the liver, and distended bladder in thin subjects can be detected moving downward during inspiration, and upward with expiration. Rarely, an enlarged gall bladder has considerable freedom of movement. We have examined a number of such cases where the enlargement was quite distinct, and where the heavy gall bladder gravitated far to the right or left according to the position assumed by the patient when recumbent. Afterwards, at the operation, it has been discovered that in such instances the gall bladder is found entirely surrounded by peritoneum and suspended by a mesentery. When inflammation of the gall bladder is associated with distension, as it sometimes is, exudations may be thrown out which may form adhesions either to the abdominal walls or surrounding viscera. It is well in all cases of suspected gall stones, to make a thorough examination in the region of the lower margin of the liver. When such enlargement can be recognized, the greater probabilities are that you have a distended gall bladder with gall stones. Frequently there may be a linguiform process of liver reaching down from the lower edge of the liver and which will be extremely difficult to distinguish from a gall bladder. Fortunately it is almost associated with gall stones, and is considered by many authors to be pathognomic of their presence Occasionally the gall bladder may protrude to one or other side of this linguiform process, when the two conditions can be recognized.

In rare cases the distension of the gall bladder may assume larger proportions, reaching down toward the right iliac region. It may then so simulate a hydronephrosis, or an ovarian cyst as to be with difficulty distinguished. When the dullness can be followed down from the liver and percussion, as it sometimes can in favorable cases, the nature of the enlargement can be ascertained generally. Little collateral evidence is present in the majority of such cases. Jaundice is seldom a symptom, for when an occlusion takes place in the cystic duct, jaundice is not necessarily a symptom. It is only when impaction takes place in the hepatic duct or common bile duct, that jaundice inevitably results.

When the cystic is completely obstructed, no bile can pass back from the hepatic or common ducts. The contents of the gall bladder will therefore be the mucus that is normally secreted from its walls, and when inflammatory conditions exist, serum and fibrous exudations will be added thereto. When the impaction is permanent, the pigment already contained in the bile that may be in the gall bladder, becomes absorbed and the liquid shortly assumes an amber or straw color. It is composed of mucin, cholesterin and when inflammation exists, as it usually does in a chronic form, there will be lymph, serum, a little pus and occasionally a few red blood corpuscles. The longer the obstruction lasts, the more clear does the fluid become, until it consists wholly of mucin, which is generally quite clear in color. It is then known as hydrops cystides felleæ.

As the subject is of great practical importance to the surgeon the diagnosis of a distended gall bladder should receive the utmost care and attention. The condition is one that may be closely simulated by other pathological abnormalities, and for this reason a consideration of the physical signs and symptoms of each we will now relate. The difficulties which arise in diagnosis are generally associated with one of the following pathological conditions, viz :

1. Floating or movable kidney.
2. Hydronephrosis.
3. Linguiform process of liver.
4. Ovarian cysts.
5. Growths in heap of the pancreas.
6. Cancer of the liver.

Floating or movable kidney is much more frequentiy found in women than in men, so are gall stones. Forthermore, floating or movable kidney is in nearly every instance found on the right side. At least, it is thirteen times more frequent on this side. In distinguishing between a distended and enlarged gall bladder, and a floating kidney of the right side, the previous history should be closely investigated in order to elicit, if possible, any previous attacks of hepatic colic, jaundice or evidence of inflammation or uneasiness in the region of the gall bladder or biliary ducts. Floating kidney is more liable to be confounded with enlargement of the gall bladder than is movable kidney. The former is surrounded by peritoneum, has a meso nephron, and moves freely about in a limited degree in the abnormal cavity. A movable kidney is placed behind the peritoneum, and its movements are limited to a space artificially created by itself. A floating kidney having a mesentery has much greater freedom of movement, and may rise close up under the anterior abdominal wall. The most prominent symptom of floating kidney is a dull, heavy, dragging pain shooting from the region of the kidney, along the abdomen to the thighs. Frequently this pain is felt quite distinctly in the libia or testicles, as the case may be. The pain may be aggravated duriug menstruation or by constipation. Occasionally there are paroxysmal attacks of colic which soon pass away. Disturbances of micturition not infrequently are associated with floating or movable kidney. Often there are present symptoms of flatulence, sickness, anorexia and diarrhea. Many cases present anomalous and varying symptoms, which are extremely irregular and conflicting, The majority are no doubt due to reflex nervous conditions that can be attributed only to the vagaries of the sympathetic system in highly sensitive patients. Percussion over a floating kidney frequently elicits a note more or less tympanic, for the colon lies over the kidney, whereas over a distended gall bladder, a dull note is produced. During inspiration and expiration a gall bladder moves downward and upward respectively. Respiration has no effect on a floatiug kidney, but it has a tendency to slip away with a sudden jerk from beneath the fingers when pressed upon. By inflating the colon with gas the gall bladder is pushed forward against the abdominal walls, where in subjects with thin abdominal walls, it can readily be felt. The same inflation will force the kidney backwards and upwards where it cannot be felt. It will be found that the differences herein enumerated are more difficult to distinguish in actual practice, than they seem on paper; only by careful investigation of the various symptoms on both sides, by accurate summation of all the symptoms, and probably by submitting the patient to an examination under an anesthetic, will the diagnosis be intelligently established.

Hydronephrosis.—This is caused by obstruction to the flow of urine in some point of the urinary passages, and consequent accumulation of fluid in the kidney. Many conditions have been set down as causes. Impaction of urinary calculi in the ureter, twists, kinks, stenosis, pressure of growths, inflammatory bands and cancer in the pelvic organs have each and all been given as causes of hydronephrosis. The symptoms are exceedingly variable, and in the absence of enlargement of the kidney are generally misleading. In many there is little or no pain; in others a great amount. Partial or absolute suppression of urine will be present when both kidneys are affected, as they are in about one-third of the cases. The size to which a distended kidney may attain varies from anything above normal to a tumor that may fill the greater part of the abdomen. Like a distended gall bladder, it may intermit in size and from an identical reason. A calculus may become impacted in the pelvis of the kidney or beginning of the ureter and so dam back the urine secreted that a great degree of distension is the result. From assuming different position of the body, or from the distension itself liberating the valve-like calculus, it may fall back and allow the pent up urine to flow on and the tumor to diminish in a short time. When this diminution is associated with a sudden increased flow of urine, a strong suspicion of hydronephrosis should be entertained.

Linguiform Process of Liver.—A deformity of the liver, which consists of a tongue-shaped process developing from its lower edge and reaching down to the extent of three inches, may when the present lead to difficulty in diagnosis. The condition is acquired and the result of cholelithiasis. As already stated, its presence is pathognomonic of the presence of gall stones.

Ovarian Cysts.—One would not imagine that there would be any difficulty in making a diagnosis between a distended gall bladder and an ovarian cyst of small or medium size; yet cystic enlargement of the right ovary have frequently been confounded with this condition. Occasionally an ovarian cyst is found so far up as to be readily mistaken for a distended gall bladder. The author remembers operating on a woman for suspected gall stones with distended bladder, and found a small ovarian cyst with quite firm attachments to the lower margin of the liver. Usually, however, there should be little or no difficulty in making a distinction.

Growths of the pancreas may be mistaken for distended gall bladder. Cysts of the pancreas are exceedingly rare. When present they are generally centrally located, deeply seated, fluctuate and are not influenced by respiration. By puncture a clear, viscid fluid containing an abundant amount

of albumin, which coagulates by heat and nitric acid, will be procured. They should not be mistaken for a distended gall bladder.

SYMPTOMS OF THE ATTACK

Cholelithiasis is distinguished for its variableness both in pathology and symptoms. Occasionally these may be temporary or quiescent, and pass away without giving rise to any symptoms of sufficient importance to call for medical aid. Unfortunately, this is not always the rule; on the contrary, the local and constitutional disturbances aroused during the passage of the stone may be the most painful and distressing in the whole category of disease. Sometimes after the escape of one calculus, the patient may be free from the disease in the future; more frequently, however, a recurrence takes place. It may be a few months or a few years between the recurrences of these attacks. There is no rule that can be laid down as to when an attack may return in any given case; nor is there any estimate of how long the attack may last; except to say that from the time the calculus enters the cystic duct until it effects an entrance into the duodenum, there will be more or less biliary colic with its accompanying symptoms. This may be from an hour or two to the same number of days or even longer.

In the more chronic forms of the disease, a gall stone may be delayed in some part of the biliary passages for an indefinite period of time. It may completely occlude the lumen of whatever part of the duct it may become impacted or it may allow a certain amount of bile to pass by. The regular or ordinary attacks of gall stones we will first relate.

Fortunately for those who are victims of cholelithiasis, nature in her own inimitable ways and unaided by any artificial assistance, is frequently quite competent to pilot a calculus safely through the biliary passages into the duodenum, when all serious symptoms cease. In many of these instances, after a varying length of time the disease subsides into temporary or sometimes permanent relief. The gall bladder and ducts resume their normal function without any serious complication following.

While a calculus remains in a quieecent state in the gall bladder it may occasionally be felt or palpated if at all large or it may give rise to feelings of uneasiness only. In the great majority of cases, the origin and development of gall stones takes place quite unknown to the patient, until all of a sudden the victim is seized with most agonizing pain the region of the gall bladder. With the alternate contraction of the walls of the gall bladder in its efforts to empty the bile into the cystic duct, the natural tendency to a concretion developing therein, is to accompany the bile in its passage outward into the duodenum. Such a concretion having a diameter equal to the lumen of the cystic duct is liable to be gripped by the latter and the first indications of the disease become manifest. A calculus which is thus endeavoring to effect an escape, immediately provokes into action the latent energies of two conflicting forces one force is endeavoring to aid in the propulsion of the calculus, the other is opposed to any such advancement. There are three agencies working in unison in the propulsion of a calculus on its onward course.

1. The first is the normal secretion pressure of the bile. This force is extremely slight but in conjunction with others, aids somewhat in the forwarding of a stone, after the latter reaches the common duct. It is not probable that this force, which is not more than equivalent to that of a column of mercury 24 mm. high, has any influence in the cystic duct for reasons that are apparent.

2. The alternate contractions and relaxations of the muscular fibres in the coats of the gall bladder, has a very maternal influence in the forwarding of a gall stone. This action is quite similar to the vermicular movements of the intestines. The presence of the stone excites and irritates the mucous membrane to such an extent that contractions are at once set up. When the walls of the billary passages are strong in muscle fibres, these contractions are quite powerful. With the advance of old age, the muscular tissue in these walls becomes greatly diminished in size and elasticity, and may atrophy to such a degree that very little power is left.

3. The action of the diaphragm and abdominal muscles exercises a powerful expulsive force in forcing forward a gall stone. The pressure is exertsd by the diaphragm from above, and the abdominal muscles from below. As these two forces approximate each other a temporary pressure is raised, not only on the liver, but in the various ducts. This pressure is so powerful that it has been known to rupture the walls of the gall bladder when distended. Sometimes when a calculus is tightly wedged in some part of the biliary ducts, the pressure exercised by these three forces may set up a pathological dilatation of the ducts on the proximal side of the obstruction, which may gradually affect the smaller branches of the hepatic duct.

This dilatation may cause the walls of the duct adjacent to the impaction to become so distinctly sacculated that the calculus may fall back into the wider part, and liberate the bile that has been dammed back. For a time the symptoms may subside and the patient have temporary relief. Sooner or later, however, the stone will again become impacted, when a recurrence of all the symptoms may be looked for. In such

cases, the part of the duct beyond the point of lodgment of the stone frequently becomes inflamed, exudations are thrown out, and should the impaction be long continued, the lumen of the duct so affected may become contracted as to be almost entirely obliterated.

The forces which exercise an opposing influence to the progress of a stone are due to the resistance which the walls of the ducts offer to being dilated beyond their normal capacity; and to reflex spasm caused by the irritation of the stone on the mucous surfaces. The spasm tends to lessen the lumen of the ducts, and in this manner a greater degree of resistance is offered to the progress of the stone. Angular stones and those with sharp points are supposed to cause a greater degree of reflex spasm than do round smooth stones. How far the walls of these tubes can be dilated and yet retain their contractile force is not known. It is quite probable that some ducts are more flabby and therefore more easily yield to dilatation than do others.

From what has been said, it can be seen that the symptoms which are associated with the passage of a gall stone from the gall bladder to its exit into the duodenum, will vary a great deal. When the usual symptoms are present the diagnosis of the condition can readily be made sufficiently distinct. It is in those cases where many of the symptoms are entirely lacking, or if present, they are incompletely developed to be of great importance, where difficulties as to the exact condition arise. In forming an estimate, a number of the most prominent symptoms should be taken in conjunction. Even then the true nature of the disease may be masked or closely imitated by others. Especially is this so in those inflammatory conditions of the gall bladder when there is no formation of concretions, but thick ropy mucus, which chokes and blocks up the tubes, that it may bring on all the symptoms of the passage of gall stones in a mild form

In ordinary uncomplicated attacks of gall stones, the following are the symptoms usually found. Pain, more or less severe, generally very acute; elevation of temperatuse; shivering sensations; sometimes amounting to a distinct chill; retching or vomiting; jaundice, when the concretion in the hepatic or common bile duct; clay-colored stools, if long continued, enlargement and tenderness of the liver; tenderness at a point between the 9th rib and umbilicus (Robson's); distension of the gall bladder, itchy sensations, especially when jaundice is present; nervous disturbances; weak, fainting turns; convulsions and cold perspirations. Any or all of these symptoms may be present. The one which stands out most prominently is pain. Sometimes, when very small concretions are passing down, there may be little or no pain, and the other symptoms may be so mild as to be scarcely noticeable. Generally, however, the pain is present and of such intensity as to cause great discomfort to the patient. Cases have been recorded where the pain was so intense as to cause convulsions, collapse, and even death. The symptoms usually come on very suddenly, without any permonitory indications. The character of the pain has been variously described as cutting, boring, stabbing, tearing, shooting, and "as if some one were tearing their insides out." In order to relieve the intensity of the pain, the patient frequently lies on the left side, with the legs flexed toward the abdomen, and head bent forward, in order to relax as much as possible the abdominal muscles. Often when the pain is exceedingly severe, the patient will roll and toss about in the bed in the vain endeavor to find an easier position. The region of the gall bladder is usually quite tender to pressure, while the acute attack is on. The patient cannot bear the least pressure without crying out. The point of intensity of the pain varies greatly. Generally it is most severe over the region of the gall bladder and at points between this and the epigastrium, but it not always begins here, but may have its greatest intensity to the right side of the chest, under the angle of the scapula, or it may be in the region of the right kidney or right iliac. It has been known to start in the left hypochlohydriac region and remain more severe there during the whole attack. The gall bladder and biliary passages derive their nerve supply from the sympathetic. This has intimate connection with the solar plexus, which supplies all the viscera of the abdominal cavity. This plexus, together with the ganglia associated with it, has communication with the splanchnic nerve from either side, and a small filament connects it with the right pneumogastric nerve. When the intrate association existing between these plexuses is considered, it can readily be understood how diversified the situation and character of the pain may be.

Besides the severe nature of the pain, its sudden onset and its equally sudden cessation, are its predominant features. As a general rule, the pain will last from the time the calculus enters the cystic duct until it reaches the duodenum. This is usually from one to three hours, or it may be very much longer. Just as soon as the calculus escapes into the duodenum the patient at once experiences a feeling of intense relief. Some express themselves by saying that they have felt something going away, and probably they do. The intensity of the attacks of colic is no criterion as to the severity of the case, neither is it any indication of the size of the stone. It is a well known fact that small stones, about the size of a pea, if angular, will cause more pain and general disturbance than a larger one.

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Large calculi are after often found in the stools, where the patient has experienced little or no inconvenience. These calculi in all probability do not come down along the biliary passages, but have escaped by a slow process of ulceration from the gall bladder or ducts to the colon, stomach, or duodenum. These larger calculi may give no indications of their escape until they reach the anus where they encounter their first difficulty in the dilatation of the sphincter. When once a stone about the size of a lumen of the biliary passages has passed successfully down into the duodenum, the next stone of similar size will pass down faster and with less pain and discomfort to the patient. The mucous membrane of the cystic duct, and to a less degree that of the common duct, as has been already stated, is folded inwards in reduplications so as to form a spiral appearance. These reduplications retard greatly the progress of the stone. It is often necessary to break down these reduplications of mucous membrane to a level with the wall before the stone can go forward. This necessarily leaves the passage for subsequent stones much easier, as the lumen will be so much larger.

JAUNDICE.

More or less jaundice is a frequent concomitant symtom of gall stones. The discoloration may vary from a slight tinge of yellow, which can be seen only in the conjunctivæ, to a deep saffron brown, distributed throughout the whole skin. This discoloration is due to the absorption of the bile pigments notably bilirubin and biliverdin, by the lymphatic vessels. In many of such cases, pigments may be found in sweat, milk, urine and saliva. Jaundice is not always indicative of the presence of gall stones, nor are gall stones at all times accompanied by jaundice. While the gall stones remain quiescent in the gall bladder, or when the impaction takes place any where in the cystic duct, no symptoms of jaundice will be present, as the bile will come down the right and left hepatic ducts into the common hepatic duct, and there empty into the common bile duct, when it will pass along into the duodenum. It is only when the obstruction takes place somewhere in the common duct or in the hepatic duct, that jaundice results in these cases. Finally, jaundice may occur in cholelithiasis and without the presence of a gall stone in the ducts. This is due to the inflammatory exudations that are thrown into the gall bladder by the presence of these stones. This inflammatory exudate is frequently thick, tenaceous and ropy, and when passing down to the ducts may give rise to colic, jaundice and all the symptoms that are asscciated with the descent of a calculus.

The same conditions arise from catarrh spreading up the ducts from the opening at the duodenum. Many authorities are of the opinion that jaundice may originate from pathological disturbances going on in the hepatic cells. It is claimed that the congestion produced throughout the liver in many of these cases may affect the normal activity of the cells. This disarrangement may so pervert the function of the cells as to render them incapable of handing over to the small hepatic radicles the products of normal metabolism. It passes into the lympatic vessels and becomes absorbed. The jaundice in a few cases may be intermittent. Well established symptoms of jaundice may appear and after remaining for a time, entirely disappear, to again appear a short time afterwards. This may be accounted for by the escape of the occluding stone into the duodenum, allowing the pent up bile to flow freely for a time, when another stone may pass down and cause a similar damming up of bile and absorption of bile pigments.

Another method by which this intermittent jaundice may arise is by the falling back of a calculus in the common duct into a dilated part of the tube on the proximal side of the stone allowing the bile to pass by its side. It will again engage in the orifice of the duct and again fall back. This may repeat many times. The duration of the jaundice varies as to time and intensity. In many of these cases the obstruction of bile is not complete, but a great proportion of it passes beside the uneven surfaces of the stone. When, however, the obstruction is complete and of long duration, the jaundice may last for weeks and even for years. The changes produced are both local and general. The local changes are those of dilatation of the biliary channels. This dilatation will affect the common bile duct, the hepatic ducts, the smaller canaliculi up into the substance of the liver.

The bile itself undergoes remarkable changes. From normal color it is transformed into a thinner fluid of a brownish color, General cholemia frequently results. In extreme cases inflammation, ulceration, or suppuration are liable to follow. Even when the constriction has been of short duration, the disappearance of jaundice takes a considerable time. It generally comes on from one to several hours after occlusion has taken place.

It is the presence of bile pigments in the feces which gives it the greyish brown color so characteristic. When therefore these pigments are withheld by occlusion in some part of the duct their absence from the stools causes the latter to have a clay color, and often a white appearance. In the intermittent variety of jaundice, the clay-colored stools will also be intermittent. No definite rules can be laid down in clay-colored stools, whether there will be constipation, diarrhea, or perfect regularity. Frequently they have an intensely disagreeable

odor, but not always so. Apart from changing the normal color of the stools, bile does not seem to exercise much influence on digestion one way or another. Its presence is not essential for antiseptic purposes, and as a stimulant to aid the paristaltic action of the bowels, its influence is not known. A symptom which is extremely annoying to the patient, frequently accompanies jaundice, and that is itching. It is not limited to any one part of the body, but is universally distributed over the whole surface. Many remedies have been suggested to allay the symptom, but the action of most of them is but transient. The itching will return, as soon as the immediate action of the remedy is over.

GASTRIC DISTURBANCES.

Vomiting is a fairly constant accompaniment of biliary colic and although distressing, it is one of nature's methods of relaxing spasm, and in this way is beneficial. At first the contents of the stomach are expelled, and after that biliary matter, and then mucus. When very severe, streaks of blood are frequently to be seen mixed with the mucus. Sometimes, when the vomiting attacks have been prolonged a distinct hemorrhage has taken place from the stomach. In these cases there is probably an ulcer existing already in the stomach.

ENLARGEMENT OF THE LIVER.

It has already been stated that when complete impaction in the hepatic or common bile duct has lasted for any length of time the tubes on the proximal side of the impediment enlarge. As time goes on this dilatation becomes more pronounced, and extends into the minute ramifications of the hepatic ducts. These ducts have been known to dilate when impaction was not present. In such cases it is due to an infective condition setting up cholangitis. As a result of this cholangitis, the bile ducts throughout the whole substance of the liver may dilate, and the size of the liver will be correspondingly large. The liver, when in this condition, is extremely sensitive to pressure. This symptom may develop shortly after the onset of the colicky attack, particularly when the cholelithiasis is associated with an inflammation set up by the action of microorganisms. When impaction of the hepatic or common bile duct is associated with nitral disease, the liver may become enormously enlarged and pulsating. Any gradation of enlargement may be present, from slightly above normal to a condition filling the greater part of the upper part of the abdomen. In those cases where the enlargement is accompanied by a good deal of passive congestion, there may be an attempt on the part of the liver to throw out exudations towards the abdominal parieties. The abdominal muscles in this region will then become more or less rigid, and there may be considerable difficulty in making a diagnosis as to the extent of the enlargement. The hepatic duct becomes sometimes so extensive as to be readily mistaken for the common bile duct, or the common duct may become so accumulated as to have the appearance of the gall bladder. Adjacent to the intrahepatic ducts, inflammation of liver tissue is generally set up. Fibrous exudations are thrown out, which ultimately contract, causing a cirrhotic condition.

TEMPERATURE.

A slight elevation of temperature is a fairly common symptom of an attack of biliary colic. It is usually preceded by a rigor and resembles to a great extent the rise of temperature that frequenily follows the introduction of a urethral catheter. It is seldom that the thermometer registers more than 103 degrees. Authors have differed in their opinions as to the exact pathology of the pyrexia. Charcot maintains that it is due to the absorption into the blood of toxic products, resulting from the presence of microorganisms so frequently found in the biliary passages in cholelithiasis. A biliary concretion passing along may so irritate the mucous surfaces as to cause an ulceration, from which the chemical products of organisms may be readily absorbed into the general circulation. It is not an unusual occurrence for rigors and elevation to occur at a certain period each day. The regularity with which this may take place for an extended time may so simulate quotidian ague as to make it extremely puzzling for the physician. Quinin, however, has no influence over that due to absorption of noxious products from the bile ducts. There is generally more or less jaundice present, which will be an important aid in the diagnosis. There will be no enlargement of the spleen, no malarial parasites found in the blood, nor are the chills and sweats so pronounced. In aged people, with no evidence of disease in other organs, and especially if there is a slight degree of jaundice present, slight elevations of temperature should lead the physician to suspect the presence of gall stones. In the more severe conditions, where the impaction is complete and when the extra-hepatic and intra-hepatic and biliary ducts are distended and inflamed, and in those cases where this inflammation extends into adjacent liver tissue, the elevation of temperature will be much more marked and distinct.

THE PULSE.

The condition of the pulse follows closely on that of temperature; when the latter is elevated, the pulse rate is generally increased, but this is not always so, for sometimes the frequency of the pulse beat becomes very slow. Many ingenious explanations have been given to account for this slow rate of pulse

and the syncope which generally attends the paroxysms of pain. It appears to be entirely sympathetic, and is brought about in the following manner. It is necessary to recall the distribution of the nerve supply of the parts concerned. The liver and gall bladder derive their nervous enervation from the cystic and hepatic plexuses. These are offset from the celiac plexus, which receives filaments from the left pneumogastric and right phrenic nerves. The celiac plexus is intimately connected to the solar plexus, which receives filaments from the right pneumogastric nerve. The pneumogastric is motor to the heart, and is the principal nerve in regulating inhibition of this organ. It is thus that there is an intimate relationship between the nerves which supply the biliary apparatus and that of the pneumogastric. The vagi are the media of inhibitory or retraining influence over the action of the heart, conveyed through them from the medulla, which center is always awake to impressions or influences. The restraining influence in this center can at any time be reflexly increased by irritation and stimulation of any efferent nerve of the abdominal sympathetic. By this stimulation a slowing or actual stoppage of the heart can be brought about according to the kind and degree of stimulative employed. The slowing action of the heart in any such case is due to the conveyance up to the medulla oblongata of a sympathetic efferent impulse. This impulse is here switched to the pneumogastric and is conveyed thence to the muscular substance of the heart a motor of efferent impulse. When an attack of biliary colic is on, there is more or less irritation in the periphery of these sensory nerves. An efferent impulse of distress is conveyed into the pneumogastric nerve and thence telegraphed as an efferent massage to the heart. When this appeal is urgent, the heart may be slowed down and rarely it may stop in diastole. This accounts not only for the action of the heart, but many nervous symptoms, such as fainting, fits, convulsions and syncope, that not infrequently are associated with severe biliary colic.

URINE.

The urine voided during or shortly after an attack of biliary colic is usually more copious in amount and of a pale color. When there is no jaundice present, there will be little or no change to be noticed in the color. When jaundice is well marked, the bile pigments which have been absorbed into the system, will be excreted in the urine. The color will be olive, or olive green according to the severity and duration of the jaundice. These pigments are best detected by Gmelin's method. Take an ordinary test-tube and place in it from 2 to 4 cc. of urine. Slant the test-tube slightly. Slide down the side from 1 to 2 c.c. of Nitronitric acid. The acid being heavier will go to the bottom and force the urine to the top. Between the two fluids there will be a beautiful play of colors. From above downwards, these colors are brown, green, blue, violet, red and yellow.

Another delicate test is to add a few drops of tincture of iodin to a quantity of urine in a large test tube. Stir up with a glass rod, when the fluid will turn green if pegments are present.

Albumin is sometimes present in the urine of icteric patients, if the disease has lasted for a length of time. It is not due to the jaundice, but to the general debilitated conditions of these patients and coincident nephretic affections.

Sugar, hyaline and epithelial casts are quite frequently present in icteric urine. These symptoms usually pass off when the biliary passages and liver resume their normal functions. So far as has been known, cholesterin has never been found in the urine.

Such are the most important symstoms, and such the usual termination in the ordinary attacks of cholelithiasis. The calculus escapes into the duodenum with a sudden cessation of all the acute symptoms. In a day or two these calculi are passed per vias naturals, where they are generally can be found

The examination of feces is not a highly edifying occupation for a physician ; and nauseous effluvias, which are sometimes present in clay-colored stools, jar discordantly on olfactory centers. We are no theologians, nor are we ultra-asthetic, and it becomes necessary for the physician to carry out any such investigations for himself. Leaving it to inexperienced persons will generally result in the examination of effete excrementitious material being improperly performed. In many instances no stone will be found, for during their passages they may be completely broken up. Especially is this true of those amorphous, crumbly and soft calculi, which are sometimes present.—THE POST-GRADUATE.

A STUDY OF THE SYMPTOMATOLOGY AND THE TREATMENT OF ACUTE AND CHRONIC NEPHRITIS.

BY JAMES I. JOHNSTON, M.D,

We have long known that albumin does not always mean nephritis—it may be functional, prostatic, or even due to spermatorrhea ; while nephritis, at least temporarily, without albumin or casts may exist. Casts have also been found in non-inflammatory diseases of the kidney, and hence alone are no certain sign. Clinically, we still divide true nephritis into acute parenchymatous nephritis, and chronic interstitial nephritis, and

only these three types will be considered, in regard to symptomatology and treatment.

Among sixty cases of nephritis studied, ten only were cases of acute parenchymatous nephritis. They were unassociated with acute infections of any kind, and therefore true types of this disease. Three gave a history of exposure; one of acute alcoholism; two were pregnant; three were convalescent from scarlet fever, four, five, and seven weeks respectively; one gave no history of importance; all were severe cases, and the mortality was 40 per cent. Nine patients were under twenty-seven years of age; six complained of headache; seven presented some edema; six showed pallor (anemia not being determined by blood examinations); eight had a temperature of 100° F. or more, while the other two had each a slight rise above normal; two complained of pain in the back; two showed eye symptoms; and one suffered from uremic convulsions. The urine was reduced markedly in eight cases; the specific gravity was between 1012 and 1030; albumin was present in marked amounts in all cases; casts (principally granular and blood) were persistently present in all; free blood was found in all but one, and it was doubtful.

This brief study of a few cases is enough to impress one that in acute parenchymatous nephritis the urinary study plays the more important role, and this is consistent with the opinion of most clinicians. Indeed, this disease is frequently only diagnosed after a careful urinary analysis. The best example of this is seen when acute nephritis develops in the course of an acute infective disease, where no symptoms are present to suggest it, other than the fact that the patient is not progressing well; hence the necessity for careful measurements and frequent examinations of the urine in acute infections, both surgical and medical. The usual symptoms and signs commonly indicative of this disease are emphasized in the cases studied: a history of previous infection, alcoholism, exposure, and pregnancy; fever of 100° F. or more; headache, nausea, and vomiting; possibly dull distress in the back, although this symptom, looked upon commonly by our patients as a sure indication of some trouble in the kidney, is usually in the lumbar muscles and has nothing to do with the kidneys; pallor or rather anemia, dry skin, loss of strength and even flesh; some edema; and lastly, the urinary findings. Careful urinary analyses are, I think, more important in acute parenchymatous nephritis than in the other two varieties of nephritis. The picture of reduced urine, high specific gravity, persistent albumin of plus amount, casts of epithelium and blood, and particularly free blood, is consistent and impressive. In acute parenchymatous nephritis there is persistent albumin and casts of the well-known types, with dropsy if glomerulous, and with no dropsy if tubular.

Dr. Cabot has emphasized the importance of the amount of the urine in twenty-four hours, the specific gravity and the color, and while probably these are the most important elements, the amount of albumin from time to time, the persistence of albumin and casts, and the presence of blood are of some importance and deserve consideration, especially in this form of nephritis. This is worth mentioning in order that young practitioners and not too-zealous older ones may not be misled by the simplicity of urinary analysis as it is understood to-day, but that they may appreciate the value of urinary findings in the recognition and management of the various forms of nephritis. On the other hand, it is just to say with Meltzer that erroneous results are often obtained from too fine methods of urine examinations. The fault is not in making careful urinary analyses, but in the interpretation of and the significance applied to such findings. Renal infarcts, commonly seen at autopsies, may simulate acute nephritis, but are characterised by suddden appearance of albumin and blood, without dropsy, and sudden disappearance of the same elements. Febrile albuminuria frequently occurring in typhoid fever pneumonia, and other acute infections can be distinguished by the quantity and persistence of albumin and casts, and the absence of blood and edema.

Acute exacerbations of a chronic nephritis are recognized by the history and by established circulatory signs rather than by urine studies. In acute nephritis the amount of albumin from day to day seems to be a fair index of the successful management; this is not always true in chronic nephritis where we have to reckon with circulatory changes, which are the best guide.

The diagnosis of acute parenchymatous nephritis rests on, first, the urinary findings; secondly, edema with fever and its associated phenomena; and thirdly, pallor and headache; but all signs and symptoms may be absent, as has been intimated, and the urine alone be the index of the disease. Sudden edema of the larynx or lungs is strikingly for nephritis, and often the acute form, while cardiac dilatations from degenerative myocarditis and uremia are to be feared, after a diagnosis has been made. Acute parenchymatous nephritis is said to be uncommon in typhoid fever, and this is my clinical experience, yet it is surprising, in going over our hospital records, to find persistent albumin and casts, in cases of typhoid fever which have died, diagnosed toxemia; while as a possible etiological factor in chronic parenchymatous nephritis, former severe typhoid fever is frequently elicited in history taking.

Chronic parenchymatous nephritis is the commonest type of nephritis coming under our care in hospital work. Patients usually apply because of edema, which makes them more suitable hospital cases than those suffering from the vague symptoms of chronic interstitial nephritis. Of this form of chronic nephritis a study was made of forty cases; all but six were between twenty-five and fifty years of age; eight only were women; sixteen gave a history of previous infectious disease; six of chronic alcoholism; three only of syphilis; one of exposure; and from fourteen no history bearing on the present illness could be obtained. Of symptoms, seven complained of chronic headache; all but five had edema, persistent and general; weakness was complained of by all; fourteen showed marked pallor (probably true anemia, but not verified by blood examinations); fever and pain were absent in practically all; and twelve, or 30 per cent, died, while twenty-eight, or 70 per cent, were discharged improved—that is, free from edema and in fair health. Of the urinary findings, the amount of urine was normal or slightly reduced generally; in two cases it was increased; all but one showed albumin in plus quantities and persistent; all but five had granular and hyaline casts upon repeated examinations; the specific gravity was between 1012 and 1025 in all but eight cases; and only one had uremic convulsions. There were no eye symptoms complained of by any patients, and the few eye grounds examined were free from albuminuric retinitis. Unfortunately no blood-pressure examinations were made in any of these cases.

From a review of these forty cases one is confirmed in his belief that very few, but positive, symptoms and signs are present in this type of the disease, and the urine examination only helps to confirm a diagnosis which is usually suggested on inspection of the patient alone. In other words, the dropsy is so striking as to leave little doubt of the trouble. As one clinician has put it, chronic dropsy with scanty or normal urine of usual specific gravity full of albumin and casts means chronic parenchymatous nephritis. We might add, with accentuated second aortic sound and increased blood-pressure of slight degree, no case should be misunderstood. Pathologically this is the large white kidney of chronic parenchymatous nephritis.

A word must be said about the symptoms of the small white kidney. This condition occurs usually about the age of thirty-five or over, and is marked by loss of flesh and strength, anemia, headache, faulty vision (retinitis), increased amount of urine with plus albumin, but with no dropsy, and presenting vascular changes and hypertrophy of the heart, with high mortality.

Although only three of my cases gave a history of and showed signs of old syphilis, chronic parenchymatous nephritis is believed to be a common result of this disease, some going so far as to say that exposure is doubtful as a cause, and when not due to scarlet fever, alcohol, or lead, it is usually due to syphilis, the nephritis developing within one or two years after infection. It seems rational to believe that probably toxic agents of a chronic nature are always present in producing this disease, and syphilis as a cause may be of more importance than we have heretofore believed.

In regard to urinary analyses in this type of disease, they seem of less importance than in acute parenchymatous nephritis for diagnosis, but nevertheless should be constantly made for confirmatory evidence.

Cases of chronic interstitial nephritis are rarely treated in a hospital—at least where I attend. I have a record of only ten cases in this study. Eight were over forty years of age (although we must not forget that many cases have been reported in young adults); all complained of indefinite gastric or nervous symptoms or of frequent nocturnal micturition; all showed circulatory changes—hard vessels, accentuated aortic second sound, high blood-pressure, and enlarged hearts; and two only presented eye symptoms. The urine in all was increased, of low specific gravity, with usually only traces of albumin and few hyaline casts. No definite history of a cause could be obtained in any case, the trouble developing insidiously. Of four cases the general health was unimpaired, the patients complaining of vertigo and interrupted sleep. Interstitial nephritis is essentially chronic and is not incompatible with long life and usefulness; it is primary, secondary, or arteriosclerotic, the majority of cases being associated with general arteriosclerosis. The signs and symptoms are the most important, the urine, aside from the amount passed, being practically unimportant. As suggested by Bradford recently, there is danger of excluding disease of the kidney from a study of the urine alone in this type, and the profession should be cautioned to examine carefully the cardiac-vascular system and to consider the general nutrition of the patient. All that we need to know in regard to the urine in chronic interstitial nephritis, as an aid to diagnosis, is the amount passed and the specific gravity. But, if further urine studies are made, significance is obtained only by repeated examinations, and even then is of no practical importance.

Some mention should be made here of postural (orthostatic) albuminuria, which is often functional and is characteristic also of convalescence from the parenchymatous types of nephritis, following prolonged local and bodily rest. Postural albuminuria may in some cases be explained by movable

(floating) kidney, when no evidence of nephritis is present, but not always. The very insidiousness of this condition makes the symptoms very indefinite, but the signs of resultant damage are more to the point of diagnosis, but necessarily make an early absolute diagnosis almost impossible, and, in most cases largely presumptive.

Some one has recently called attention to three types of patients suffering from chronic interstitial nephritis: first, those of advanced years suffering from neurasthenic symptoms; secondly, those presenting signs of ill health and wasting; and thirdly, those with striking pallor and demonstrable anemia. The symptoms of this condition are usually in patients over fifty years of age; they complain of indefinite gastric symptoms, vertigo, weakness, nocturnal dyspnea and micturition; suffer from bronchitis, insomnia, cramps in extremities, tingling, impairment of general health, and wasting, with anemia; but the true condition may be recognized accidently from failing eyesight and headache, or uremic attacks of a mild nature, or from convulsions. The signs are more definite and usually fix the disease. The increased blood-pressure, often over 200 mm. of mercury (and usually the most striking sign) the accentuated aortic second sound' the enlarged heart, the condition of the eye-grounds, with retinal hemorrhages, the sclerosed vessels of the general circulation, and the abundant urine of low specific gravity, are diagnostic. Finally, in the diagnosis of nephritis of the various types, the value of urinary findings is, first (chemically and microscopically), they are of the greatest value in acute parenchymatous nephritis and are more important than the symptoms and signs; secondly, in chronic parenchymatous nephritis they are only confirmatory to symptoms and signs so striking as to make the recognition of this disease very easy; and hardly, in chronic interstitial nephritis they are comparatively of little importance.

The treatment of all forms of nephritis consists of functional rest, or bodily rest, or both. We have no medicines except to meet symptoms and correct complications, and so these cases are handled best by careful management and diet, the use of a few drugs, and occasionally by surgery. The phenomena of postural albuminuria give us an index to treatment—that is, bodily rest and local kidney rest. Acute parenchymatous nephritis is managed by long rest in bed, from three to six weeks. Once or twice daily a warm sponge bath should be given. Marvel suggests, for a patient in fair condition, a bath of from 94° to 98° F. with passive motion and friction for from six to eight minutes, after which the patient is wrapped in a blanket and remains in it for thirty minutes; and for feeble patients a pack of from 100° to 105° F. for five minutes, followed by twenty minutes' rest. The amount of liquid per day should be about ninety ounces, as suggested by Von Noorden, and about half that should be water, in my opinion. It is my own practice to give normal saline solution by the mouth, from five to six ounces every three hours, in typhoid fever, pneumonia, and all toxic conditions, and when no edema is present, also in acute nephritis, and despite the objection to sodium chloride in this disease, I have seen only good follow. I appreciate the value of a salt-free diet in edema, and observe care when edema is present in all forms of nephritis. Milk, and Vichy, buttermilk, vegetable broth, and an increasing non-nitrogenous diet are suitable. Of medicines, when indicated, I use fresh infusion of digitalis, or liqur ammonii acetatis with a small dose of the alkaloid caffeine (gr. j), being sure to have the last dose of caffeine given not later than four or five o'clock in the afternoon, so as not to interfere with the patient's sleep at night.

The chronic forms of nephritis are diseases in which it is particularly fortunate to be rich. They are usually practically incurable, and we can hope only to establish kidney compensation. In chronic parenchymatous nephritis when edema is present, rest in bed; baths and sweats, from eight to ten minutes, once or twice daily; liquid and salt-free non-nitrogenous diet, although if the general nutrition is suffering our diet should be cautiously more liberal, and gradually increased in amount; water actually measured—that is, about forty-five ounces per day besides other liquids; saline purgatives, and the old Niemeyer pill or caffeine (alkaloid). When kidney compensation seems established and edema has disappeared, the urine nomal in amount, and health fair, careful living in a dry, warm climate where the altitude is not great should be the portion of the well to do. The patient should bathe every day, wear wool or flannel next the skin, get plenty of sleep, drink about forty ounces of plain or some mineral water per day, have only light employment or exercise, be free from care, have a free stool daily, and measure his urine occasionally. His diet should be definitely prescribed, and better largely a salt free one. It may be said that the salt output should be studied and the salt restricted rather than cut off, as the animal economy seems to need salt for its proper nutrition. The recent studies of a salt-free diet (the only treatment besides rest in many cases), when edema is present, are interesting and instructive, and I think worthy of consideration. The only drug of use in this stage is iron, and as Tyson suggests, only for the anemia when present. Chronic interstitial nephritis is also a disease for modified rest treatment. The patients are suffering from the damage to the circulation and heart, and should be directed to follow a quiet life, free from care, and guided along the same lines as those suffering from

chronic parenchymatous nephritis. One aim should be to reduce blood-pressure, never forgetting that a certain increase above normal is consistent with advanced years and should not be greatly reduced. Of drugs, nitroglycerin, iodide of potassium, or better iodide of soda, in small doses over a long period, should be tried.

Only one word in regard to uremic convulsion: I cannot agree with my old teacher in this matter, for I give morphine at once when the convulsions occur, irrespective type of the disease. I have also given chloral hypodermically with happy results in uremic convulsions. I have had no experience with surgery as applied to these types of kidney diseases, but after reading Ramon Guiteras's statistics collected from forty-two surgeons where the mortality of operation is 25 to 26 per cent, and only 17 per cent of cures in 160 cases, I am inclined to stick only to medical management.—THE THERAPEUTIC GAZETTE.

TO WHAT EXTENT SHOULD WE BE CONSERVATIVE, TO WHAT EXTENT RADICAL WITH OUR SURGERY IN THE TREATMENT OF OVARIAN DISEASES?

BY DR. J F. HIGHSMITH.

This is a subject which has been, and is of great interest to the gynecologist—and in fact to the profession at large. As the years roll by and the pendulum of opinion, moved by personal experience, swings to the extreme right and left, I occupy a mid-position. Each case requiring individual treatment. We learn and with experience unlearn—cancel many methods and adopt new ones which we hope to be more lasting. I shall briefly take for my guide an experience gained from perhaps five hundred laparotomies for ovarian diseases. Not going into detail with each case, but using briefly illustrative cases for these. I shall state facts as I have observed them in my experiences. Trusting the same may elicit a free discussion with much knowledge gained for myself and relief to future patients.

In the first place I try to be conservative in my work in a true sense. The object of all surgery is to save life, to restore function, and relieve suffering. A diseased and functionless ovary should be removed if health is impaired and the condition of the ovary cannot be improved by surgical work. Whenever it is possible to restore true function to an organ it should be done. This can often be accomplished by breaking up adhesions, evacuating corpus lutenum cysts, and cysts of the graafian follicles, and the excision of the small hematoma of the ovary, etc. We must feel satisfied that the effort to save a portion of the ovary is for the best interest of the patient considering her interest, her position in life, her married relations, and other circumstances bearing upon her welfare.

No gynecologist should do an injustice to his patient by robbing her of an organ when he has an assurance of being able to help her back to health by conservative treatment. It is equally unjust to the patient to try to save an organ which is either a menace to her life or a source of invalidism. We must endeavor to be honest, considerate and thoughtful toward our patient, and if we follow these lines we will make no mistake of heart and few of head in handling these troublesome intrapelvic conditions. Whenever in doubt as to what is best to do give the patient the benefit of the doubt and the chances are we will make fewer mistakes. True in quite a number of cases after doing conservative operations on the appendages it has been necessary to resort to a second operation. But when one remembers the pitiful wrecks that are often seen where radical operations have been done early in life he hesitates a long time before completely removing the pelvic contents. The old German adage "Qui bone diagnoscit, bene curant," is ever true, We must diagnose our cases well then we shall cure well.

We must first thoroughly study our case and with all things taken into consideration try to be sure of our diagnosis. There are quite a number of cases where after using hot douches and building the patient up all symptoms of ovarian disease disappear. Or if not entirely relieved they will go along comparatively comfortable. I have treated many such cases. To report each case thus treated would grow tiresome but to illustrate I briefly cite the following cases:

Mrs. J. D., white, age 38, mother of five children, came in the hospital extremely nervous, much run down in every way. Youngest child two years old. Gave a history of having suffered after the birth of the child, had fever and did not convalesce satisfactorily, looked as though she had suffered from infection. She had been a physical wreck ever since this attack. An examination showed the right ovary much enlarged and prolapsed, with a great deal of thickening of the right broad ligament—endomentritis also present. This case was thoroughly curetted, kept in bed for four weeks, using tonics and hot douches daily. She steadily improved and was discharged from the hospital at the end of five weeks. While she has not become pregnant since, now four years since the birth of the last child, she is active in her domestic duties and reports that she is feeling first-class.

Mrs. J., white, aged 30, married for five years, consulted me. Anæmic, nervous, constipated, etc. Gave a history of suffer-

ing greatly from leucorrhœa and by dysmenorrhœa, period, irregular. On examination the uterus was found to be in position with a prolapsed left cystic ovary, very painful on pressure. She would not consent to have the ovary removed, which was my best judgment should be done. She had been advised by other surgeons that it should be removed. I gave her tonics, regulated her secretions, kept her quiet, dilated and curetted, and used hot douches daily. She greatly improved in health. A short while afterwards became pregnant and gave birth to a living child, much to her delight. She has been well since, up until the past spring when she consulted me again, somewhat run down in health. I found the ovary in very much the same condition as four years previous, but no worse.

I could cite many other cases similarly treated with results equally as good. Please do not understand me to be an advocate of pessirus, hot douches and tampons, but we do have cases sometimes where we are forced by the patient to resort to this kind of treatment with results not so bad after all, but rather encouraging sometimes.

Where acute pelvic abscess is present evacuation of the purulent material per vagina is found to yield most satisfactory results and it is not necessary to remove the appendages. In this class of cases I call to mind numerous cases drained per vagina with best of results—it only being necessary to go in through Douglass' cul-de-sac, letting out the pus and setting the patient at an angle of 45 degrees. These cases usually have many adhesions but they seem to take care of themselves. One of these cases opening the abscess per vagina and she clear of fever for several days with no signs of further inflammatory trouble, requested that I make an incision and examine her ovaries. She and her husband would feel much better satisfied if the ovaries were removed—she having had several miscarriages with most alarming complications. I consented to do the exploratory incision. On entering the peritoneal cavity from above I found the fundus of the uterus with the sedonexer on each side a perfect mass of adhesions to the bowels. I was plainly in trouble. There was nothing left for me to do but make a complete removal of the uterus with the appendages. The woman came very near dying, for she was critically ill. She got well, to my joy, but I quietly decided in my own mind that the next case of this kind would not be operated upon for the removal of the ovary or ovaries so soon after having drained an acute pelvic abscess per vagina.

In bad inflammatory infections non-acute where no abscess has walled itself off, and it is impossible to drain through the vagina, I think it a mistake to act conservatively. These cases do better to remove the ovary complete. My experience has been where the pathological changes come from a chronic inflammatory lesion it is not wise to leave any portion of the ovary for it will give further trouble. Hence in the end it is more conservative to remove than leave behind any portion of such an ovary. The same holds true if the ovary has undergone disintegration from specific trouble.

Mrs. I., age 30, mother of one child six years old, consulted me, giving a history of suffering continuously from her periods, constant pain and soreness over both ovaries, with periodical chills, with fever to follow. On examination I found both ovaries much enlarged, very sensitive. After opening the abdominal cavity both ovaries were found to be thoroughly disorganized with very small portions of healthy ovarian tissue, tubes healthy. I removed both ovaries complete. There being so many adhesions I drained for forty-eight hours through the abdominal wound. The patient made an uninterrupted recovery, has had no further trouble and has been perfectly well ever since.

Mrs. B. consulted me at the same time and suffering very much in the same way as Mrs. I. On opening the abdominal cavity I removed the right ovary, broke up a good many adhesions about the left, and she being so extremely anxious for children I left the left ovary. Six months later she returned suffering as badly as ever. On examining per vagina I found the ovary I had left twice the size as six months previous. I advised the removal of this ovary and the patient consented. She made an uneventful recovery. Went along for three or four months in my absence extremely nervous, almost crazy. When I returned home she told me there was something else dreadfully wrong. On examining her I found absolutely nothing and so informed her. She got out of bed and since then has been in perfect health. I draw the following conclusion from this illustrative case: When the ovaries are in densely adherent, necessitating more or less mutilation in freeing them from a vicious portion it is better to remove them than to follow conservative principles. Further, that the greater the diseased condition of an ovary the less the suffering of a nervous character following the removal of the ovary.

Cysts of the graafian follicles and the corpus luteum cysts fortunately are not removed nearly as frequently as formerly. Many good ovaries have been removed. It is hard to tell in many instances just where to draw the line. The mere fact that four or five large graafian follicles are present in the same ovary is no indication whatever for the removal of the ovary—the only thing that is necessary is to puncture the cysts that is if the remainder of the ovary not occupied

by the cysts is apparently healthy. If on the other hand the capsules show considerable thickening and there are evidences of other cysts forming I think it best to extirpate the ovary. And I must say here that where it is necessary to resect a portion of an ovary careful operative technique is very important. The surgeon should use, if possible, continuous sutures of the finest catgut, instead of interrupted ones. Where there are many ends of sutures lying free there is always a possibility of the intestines or omentum becoming adherent, giving rise to subsequent trouble.

Mrs. L., white, married, age 30, mother of one child five years old, consulted me. She was delicate, suffering greatly at her periods, dragging pain, could not walk, nervous, gradually losing flesh. On examination found the left ovary much enlarged with a general relaxation of its ligaments. January 15th I removed this left ovary and she left the hospital three weeks afterwards in good condition. The right ovary at this time, to all appearances, was healthy with the exception of two or three small cysts, which were punctured. She held her own, gaining in flesh and general tone—periods regular until January, 1906, two years after the first operation, at which time she began to be irregular. Continued to suffer with bearing down pains in the lower pelvis. On examination I found the right ovary much enlarged, and she requested that I remove this ovary, which I did in November, 1906. Since the removal of this ovary she has not been nervous, her periods have not returned which has given her a rest. She has gained twenty pounds in flesh and thus far enjoys good health.

Mrs. W., white, age 30, mother of two children, consulted me January 1903. On examination the right ovary was found to be much enlarged—absolutely cystic. Two days afterwards the ovary was removed. The left ovary had one cyst of considerable size which was removed. This patient was a nervous wreck. After the operation she speedily recovered, has been a hard worker ever since, enjoying perfect health, regular at her periods. Two years after the operation gave birth to child at term with no complications.

Now with these two cases who could tell just how far to be conservative, but it seemed to me the best thing to do was to give the patient the benefit of the doubt.

Hematoma of the ovary if of large size we had better extirpate—if of small size excision. An interesting case came under my care May, 1903. Miss A., age 20, consulted me for what she had been told was a retroversion of the uterus. On examination I found in the cul-de-sac a mass very sensitive. I recommended an operation which was consented to and on May 25th made an incision. I found a hematocele of the left ovary as large as a hickory-nut or larger. I thought it best to remove the ovary complete, which we did. The right ovary was healthy. The patient made rapid recovery—all her nervousness passed off—she discarded her glasses which it was necessary for her to wear and was in perfect health. May 9th, 1905, two years after the first operation, in the mean time this patient had married, she was returned to me, giving a history of a few days previous suffering with excruciating pain in the region of the right ovary. And from the description of her case by her physician looked as if she might have ectopic, as there was more or less shock with extreme pain, etc. On re-opening the abdomen, it having been two years since the first operation, I found a hematocele of the right ovary the size of a small acorn. I excised the hematocele in the usual manner, leaving the ovary. The patient was again to all appearances in perfect health with no pains or aches—not nervous, and looking the picture of health. Shortly after this operation she became pregnant, carried the child to term, and since I am informed enjoys good health. I have noticed that these patients with hematocele of the ovary suffer greatly and are especially in an uncontrollable nervous state.

In fibroid tumors of the uterus I have made it the rule where I did a hysterectomy to leave an ovary if it was possible. Where the ovaries are prolapsed and in a healthy condition they should never be removed, but should either be stitched to the fundud of the uterus, or, as may be done in many cases, to the round ligaments.

Conclusion.—First, where the ovaries are densely adherent, necessitating more or less mutilation in freeing them from a vicious position, it is better to remove them than to follow conservative principles. Especially is this true if there has been tubal infection. Or when the ovary has undergone a natural pathologic change I have had little success in attempting to conserve a portion of it. It is certainly better to remove it if the other ovary is normal.

Second.—Simple cysts of the graafian follicles, corpus luteum, etc., are to be treated conservatively, if the remainder of the ovary which is not occupied by the cyst is apparently healthy. If on the other hand the capsule shows considerable thickening and there are evidences of other cysts forming, act radically—remove the ovary.

Third.—Hematoma of the ovary, if of large size, more or less occupying the whole ovary, extirpation; if of small size excision.

Fourth.—Prolapsed ovaries should not be removed simply because they are prolapsed but should be stitched either to the fundus of the uterus, or, as may be done in many cases, to the round ligament.

Fifth.—Where acute pelvic abscesses are present, the result of infection, mere evacuation of the purulent material per vagina often is all that is necessary.

Sixth.—There are quite a number of cases with the diseased ovary where after using hot douches and building the patient up the symptoms entirely disappear. But this is not the rule.

And last, but not least, it is of the utmost importance that the surgeon be well versed in a careful, well-grounded knowledge of pathologic conditions, since upon this depends his conclusions which must permanently influence anothers life. A good rule is to give nature the benefit of our ignorance or doubt.—THE CHARLOTTE MEDICAL JOURNAL.

NERVOUS DISORDERS DUE TO THE TEETH.

By HENRY S. UPSON, M.D.

My remarks of this evening have to do with a very familiar subject, the melancholy of toothache. The point is that the depression sometimes comes without the ache. The principal symptoms caused by dental lesions are: First, pain in the tooth; second, pain elsewhere, especially in the head; third, vasomotor symptoms, chills or thrills, flushes, sweating; fourth, insomnia; fifth, melancholy; sixth, muscular twitching, seventh fever, especially when pyorrhea is present; eighth, rapid or irregular pulse. All of these symptoms are important. If in the absence of the diagnostic sign, toothache, melancholy may run into melancholia, or if sweating, weakness and flushing, caused by bad teeth, may constitute neurasthenia, or if insomnia, unaccompanied by dental pain, may result, it becomes important to make the diagnosis and remove the cause.

The two cases to be reported in outline tonight may serve to illustrate this point. The first, a young man 28 years of age a robust mechanic, three weeks before he was first seen came home from his work, and his wife moodily remarked that she thought she was losing her mind. It immediately occurred to him that he might be losing his mind. He slept little that night or the succeeding nights, gave up his work and spent his days in fear of the asylum. In brief, tonics and assurances failed to relieve. The only discoverable lesion was dental caries, and the filling of a deep cavity extending into the pulp was followed by prompt recovery and he returned to work. There had at no time been toothache or other pain, but dizziness and sweating had been noted.

The second patient was an unmarried woman, 27 years old, a teacher. For a year she had been profoundly melancholy, with intractable insomnia, delusions of various deadly sins, and entire hopelessness of recovery. Restlessness was extreme, tonic and local uterine treatment were of no avail. As a last resort the teeth were examined. They were apparently in perfect condition. A radiograph taken by Dr Lodge showed, however, an impacted right upper third molar teeth pressing against the second molar, a condition obviously capable of causing irritation. The symptoms; in about a week after the removal of the tooth, began to improve. Recovery was complete in six or eight weeks, and has persisted for six months.

It is of course not safe to draw conclusions from two cases, but a provisional theory may be formed. The theory of suggestion hardly applies to both cases. The first one might be so explained, especially in view of the fact that the insomnia and depression followed a mild psychic shock. The second case however was one of melancholy fully in line with the depressed phase of manic-depressive insanity, a disorder in my own experience and according to all authorities singularly rebellious to suggestion of any kind. The teeth are viscera, viscera much neglected by the medical profession. Diseases of other viscera, digestive and pelvic, cause depression, insomnia, and a chain of other nervous symptoms. The inference is warranted that the teeth in melancholiacs, neurasthenics, and those afflicted with insomnia should share the honors of the medical examination equally with the contents of the chest, abdomen and pelvis, and, when diseased, should be cured.

Through the courtesy of Dr. Clark an investigation is in progress of a number of patients in the State Hospital in Newburg. Of six female patients already examined, the subjects of melancholia, mania and dementia precox, one patient with melancholia and one with dementia precox have undescended wisdom teeth, one undoubtedly impacted. All have dental caries. The prevalence of dental disease alike among the sane and the insane is overwhelming and disheartening. Bad teeth are not only the rule, but the almost universal rule. Of the patients who have thus far come under my observation in this investigation, the only two whose teeth on casual inspection seemed normal proved both of them to have impacted wisdom teeth. Under the circumstances an inference from lesion to symptom is impossible; but a careful routine examination of the mouth, in cases of obscure nervousness, of anemia, dyspepsia, chronic fever, sweating and rapid heart action, will in many cases, in the absence or in the presence of lesions elsewhere, disclose irritative or septic conditions in the mouth.

My thanks are due to Dr. John F. Stephan for constant cooperation in the radiographic and dental work connected with this investigation.—THE CLEVELAND MEDICAL JOURNAL.

A Mirror of Practice.

THE LACHRYMAL APPARATUS.

This consists of the lachrymal glands and lachrymal passages. In structure, each lachrymal gland is a racemose gland, microscopically like the parotid gland. Each gland consists of two portions, the superior or orbital portion, which is about the size of a small almond, is situated in the lachrymal fossa at the outer part of the orbital plate of the frontal bone, just internal to its external angular process, and is fixed by fibrous bands to the periosteum. There are about twelve lachrymal ducts, which pass from this portion of the gland, and which open upon the surface of the conjunctiva at the outer portion of the upper fornix. The inferior or palpebral portion of the lachrymal gland consists of one or two lobules, which are situated on the course of the ducts of the superior or orbital portion. This part of the gland can be readily seen under the conjunctiva, when the eyeball is rolled downwards and inwards. The accessory lachrymal glands, or Krause's glands, are small acini, which lie below the conjunctiva between the fornix and the edge of the tarsus. There are between forty and fifty of these glands in the upper fornix, and from six to eight in the lower. The lachrymal passages consist of the puncta lachrymalia, situated on the lachrymal papillæ, the upper and lower canaliculi, the lachrymal sac, and the nasal duct. The puncta lie at the posterior border of the lid margin near the inner canthus of the eye, and are in apposition to the eyeball. The canaliculi pass from the upper and lower puncta to the lachrymal sac, where they open, as a rule, separately into its outer wall. The lachrymal sac, which, when distended, measures about 14 mm. vertically and 5 mm. horizontally, lies in the lachrymal fossa in the lachrymal bone. Fibres of the orbicularis palpebrarum surround the lachrymal sac. The lower end of the lachrymal sac narrows down considerably to open into the nasal duct. Near its superior extremity, the lachrymal sac is crossed in front by the internal tarsal ligament, from the upper and lower edges of which the orbicularis palpebrarum arises; behind the lachrymal sac is the tensor tarsi muscle or muscle of Horner. The nasal duct, which measures between 15 and 20 mm. long, passes downwards, backwards and slightly outwards in the canal formed by the superior maxilla and the inferior turbinated bone, to open at the anterior portion of the outer wall of the inferior meatus of the nose. Here the mucous membrane forms an imperfect valve (value of Hasner), as the duct opens into the nose. The lower portion of the nasal duct is surrounded by a plexus of veins, forming a sort of erectile tissue similar to that in the nose.

THE LACHRYMAL SECRETION.

This is a slightly alkaline fluid, the chief constituent of which is sodium chloride. The amount secreted, under normal conditions, is just sufficient to moisten the conjunctiva, and is then gradually lost by evaporation. It is only when the lachrymal gland is stimulated through a psychical disturbance, or reflexly through the periphery, such as a foreign body in the conjunctival sac, a superficial corneal ulcer, or reflex irritation through the nasal mucous membrane that there is an increased amount of the lachrymal sac, and through the nasal duct into the nose during the movement of the eyelids when the fibres of the orbicularis palpebrarum contract around the lachrymal sac; but some of the secretion may pass over on to the face, constituting epiphora. In normal circumstances, it is the lubrication of the margins of the lids by a fatty material which prevents the tears from flowing over on to the cheek. It is quite possible that the lachrymal secretion may have some slight antiseptic properties, at any rate, to a great extent, it keeps the conjunctival sac clear from invasion by many micro-organisms, and, in this connection, it is interesting to note that there are no tears secreted during the first few weeks of life, and this may explain the fact that micro-organisms, like the gonococci and others, so readily infect the conjunctival sac of the newly born child, and produce ophthalmia neonatorum.

Plague mortality continues unusually low for this season of the year. Returns now published show that there were in all India in the week ending 28th December 2,741 deaths of which 832 were in the Bombay Presidency, 458 in Bengal and 363 in Mysore State.

Annotations.

POISON-ABSORBING QUALITY OF COLD WATER.

In connection with the subject of water, there is one peculiar property of that liquid, with which every one should be made acquainted, and that is, its capacity for absorbing impurities, which it increases proportionately the colder it gets. Hence, water that has stood in an insufficiently ventilated sleeping chamber all night is not only unpleasant, but positively injurious to drink, since it readily absorbs the poisonous gases given off by respiration and the action of the skin. An ordinary pitcher of water, under such conditions, at a temperature of 60 degrees, will be found to have absorbed during the night from a pint to a pint and a half of carbonic acid gas, and an increase of ammonia. Ice water is an objectionable drink at all times, but if it is indulged in, the vessel containing it should never be left uncovered in sleeping or sitting rooms because at freezing point its capacity for absorbing these deleterious substances is nearly doubled.

EARTH AS A HEALING AGENT.

In cases of pain, inflammation, snake-bites, bee-stings, etc., the action of the earth on the human body is not unknown. It is one of Nature's cures. Perhaps it is not used now as much as it used to be; but yet we find every now and then doctors who believe in Nature's cures, advising their patients to walk barefooted on the ground, to sleep on the earth, etc. There is no doubt that the earth really has a curative value. Mud baths are another one of the cures that have come from the value to be found in the application of earth. Farmers who break the soil early in the spring and work in the fresh up turned earth, have always noticed the refreshing effect of it, and the keen appetite it gives them. In the autumn, when potato-digging time comes, boys following the plough through the fresh, warm earth picking up potatoes have an appetite so intensified that it seem impossible to satisfy it. This is doubtless largely due to the invigorating qualities of the earth. There is no doubt that earth is one of Nature's remedies as well as sunlight, air, water, food, etc.

VEGETABLES.

An eminent physician who has been investigating the properties of the different kinds of vegetables, announces that a diet of carrots ameliorates harshness of character and reduces nervous irritation; peas create fatty tissue and encourage joyousness, while turnips have an opposite effect. Celery taken in excess may be beneficial in pulmonary ailments and lettuce aids as a mild sedative, owing to the composition of its juice, which also keeps the skin clear and fresh.

WATER AS A NERVE FOOD.

If nervous women would only drink more water they would not be so nervous. Nearly every physician will recommend a woman who is suffering from nervous prostration or nervous exhaustion to drink lots of water between meals, but many women who do not come under a doctor's care would feel better and look better if they would drink, say, a quart of water in the course of a day. Water is nerve food. It has a distinctly soothing effect when sipped gradually, as one can test for oneself. Moreover, the hygienic effects of pure water are not confined to the female sex, for, as a matter of fact, men would be all the better if they imbibed more of it.

NERVOUS CHILDREN.

Nervous children will not bare very much cold bathing; they have not got heat enough in their bodies to react against it. Do not demand too much exercise from them. Do not let them study too much or go to school too early. Of course, their minds must be pleasantly employed, and the kindergarten may be available after they are three years old. Cultivate in them a love of Nature and outdoor life, especially in pleasant weather. This is the true, grand kindergarten. Do not forget they need companionship. Give them a good comfortable bed where the air is pure, and do all you can to promote healthful sleep.

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The Indian Lancet.

CALCUTTA : MONDAY JAN. 13th, 1908.

CORPULENCE CONSIDERED AS A DISEASE.

One of the penalties which humanity suffers for some of the privileges of a high state of civilisation is the taking on of flesh till it becomes a burden; and only in recent years has this condition been recognised in its true nature as a disease of a grave character, bringing in its train many painful complications. The chief producing cause of obesity is over-indulgence in fat-producing foods—the sweets, pastries, rich entrees, and tempting warm breads, which occupy so important a place on our lavish tables. With the means for providing so elaborate a cuisine comes also, to a great many lives, comparative freedom from care. Existence for these seemingly fortunate people seems to be padded on all sides against the friction of the petty daily worries and trials which wear others to skin and bone. Carriages and horses tempt them to forego all exercise, and cheat them into the belief that if they religiously take the air every day they are doing all that health requires. When the victim of this over-assimilation of food is a woman, and is in the early stages of the disease, her mistaken friends congratulate her upon her plumpness, and think her the picture of good health.

But insidiously there creeps over her a trying consciousness of weakness and weight combined, and though there seems nothing really the matter with her, her life is sown with daily pin-pricks of unnamable discomforts. Ere long the plumpness becomes a burden of flesh, and even the most necessary duties of life, those which we cannot delegate to others, become a wearisome exertion, sometimes even requiring fortitude to perform them. Taken betimes, before the disease has assumed, as it were, a chronic nature, very trifling changes in the habits of life will arrest its progress; later, however, nothing short of heroic measures will suffice. At the first indication of the abdomen's taking upon itself a disagreeable prominence, accompanied by a sensation of uncomfortable fulness after eating, and often with shortness of breath, it is advisable to make slight change of diet.

Bread should be eaten very sparingly, and only of the coarse kinds. No white bread should be eaten unless cut very thin and toasted brown. It is best to drop all cereals, and also the root vegetables, potatoes, turnips, carrots, etc., and beans and peas. Of course sweets are tabooed, and it is well to erase chocolate from the list of liquids. All drinks should be taken in moderation, but a goblet of hot water a half-hour before meals will hasten the cure. The only meats that are under the ban are veal and pork, and the latter should always be eaten very sparingly excepting by those working hard at manual labour. Eat as freely as appetite prompts of fruits, both fresh and dried, and all green vegetables, especially salads. Nuts and raisins, figs and dates, ices and jellies can be varied for dessert, so you will not miss the harmful pastries, cakes, and puddings. But eating is not all; though very important, it is only one part of the regimen.

Night and morning you must take exercises that will work off the abdominal fat and give firmness to the tissues. The following are all good for the purpose, and will help to make and keep the body lithe and supple—Raise the arms straight above the head, palms together; expand the chest with a deep inspiration, rising at the same moment upon your toes and taking five or six steps across the room; expel the breath as you drop your arms and come down upon your heels. Repeat from eight to ten times. With the arms above the head as before, bring them down in a sweeping curve till the finger-tips touch the floor in front of your toes. When this is properly done, with pliant body, the whole spine curves over link after link. Avoid haste in all exercises, and repeat to the point of slight fatigue, not beyond that. With the arms hanging lifeless from the shoulder—technically called "decomposed" or "devitalised"—bend the body sidewise as far as possible, first to the right, then to the left; repeat as before.

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Current Medical News.

CHLOROFORM AS AN ANÆSTHETIC.

To the public at large one of the most interesting of the discussions at the annual meeting of the British Association at Leicester was that which arose out of the presidential address in the Physiological section. The address was delivered by Dr. Augustus Waller, F.R.S., who dealt with the action of anæsthetics and the means of preventing mishaps in the administration of chloroform. On the whole the address and the subsequent debate, in which, among others, Sir Victor Hersley, the eminent surgeon, and Dr. F, W. Hewitt, anæsthetist to His Majesty the King, took part, should help to reassure the public mind as to the use of anæsthetics. They show how medical skill can reduce to a minimum the risk to the patient

There is no reason nowadays why a patient should feel any more qualms about taking an anæsthetic under a skilful administrator than about taking a trip on a well managed railway or a voyage on a well-found mail-steamer. Fatal results from chloroform or other general anæsthetics are not only few in proportion to the enormous number of operations, but the ratio, as Professor Schutter pointed out, is far less than it used to be. The decreasing percentage is directly traceable to improved methods of administration and extended acquaintance with the physiological effects of the agents employed to induce unconsciousness. It is now exactly 60 years since Simpson's great discovery of the surgical value of chloroform vapour, and had the number of deaths under chloroform been far than they have, mankind would still owe a debt of deep gratitude to the discoverer. In "The Memoirs and Letters of Sir James Paget" we are given an idea of the enormous amount of suffering which has been done away with through the use of anæsthetics. When Sir James was "Warden" at "Bart's" in the forties, Lady Paget was haunted and saddened, we are told by the cries, which reached her from the operating-room, and her husband would find her "looking worse than the patients." The operating-theatre was then a veritable torture-chamber, and only the strong would survive the shock of an operation. It was the merciful advent of chloroform that relieved Lady Paget's distress and made the surgeon's task bearable for men of compensate natures. Nor can the beneficent work of chloroform be measured by its alleviation of pain alone. It has also enabled the surgeon to perform operations which would have been utterly impossible unless the patient could be kept quite unconscious and absolutely still. Lives innumerable have been saved and afflictions innumerable have been removed solely because surgery has had the anæsthetic to aid its progress. Together with the antiseptic the anæsthetic has been the making of modern surgery.

Since the anæsthetic is so indispensable the public must feel keen satisfaction at the new knowledge of its properties which physiologists like Dr. Waller and practical anæsthetists like Dr Hewitt are accumulating for the benefit of the medical profession. Their aim is to provide what we may call "checks" for diminishing such risks as there may be of untoward consequences. These "checks" are of two kinds; one set depends upon clinical observation of the patient's symptoms; the other upon arithmetical regulation of the quantity and strength of the vapour inhaled. The clinical symptoms are, of course, the result of physiological changes that must be studied both in the laboratory and at the bedside. When a patient inhales chloroform, the vapour, diluted with air, is distributed all over the body by the circulating blood. The lymph which surrounds the tissues becomes a weak solution of chloroform and water. Then according to their susceptibility the different parts or organs fall under the deadening influence of the drug. First to succumb is the grey matter of the brain. That means cessation of conscious sensation and movement. Next go the organs of unconscious reactions, the grey matter of the spinal bulb and acrd. Reflex action, such as winking the eye when the eyeball is touched, stops before automatic action, such as the repiration or the heart beat. Thus there are four stages of anæsthesia, with "finger-posts," as Dr. Waller terms them, to mark their bounds. First comes a period of preliminary agitation or excitement. Then follows loss of sensation and voluntary motion, while reflex and automatic movement persists. This is "light" anæsthesia. The finger-post" between it and the next stage is the winking of the eye when the eyeball is touched. If the eye does not wink reflex action has ceased, and the anæsthesia is "deep." This is the stage required for major surgical operations. The "finger post," on its other side, is the movement of respiration. Arrest of breathing indicates that the fourth stage has been reached, and that death will ensue unless prompt measures be taken to revive the patient. Stoppage of respiration," said Dr. Waller, "means danger; stoppage of the pulse, death, but Dr. Hewitt declared that he had known of recovery even after the pulse had ceased to beat. The great clinical "check" is therefore, observation of the breathing, though according to Professor Schafer of Edinburgh, it is equally necessary to watch the pulse, as "by carefully influencing the effect of the anæsthetic upon the heart, fatal results even from an overdose can be diminished." Not content with the "finger-posts' supplied in the patient's symptoms students of anæsthetics have worked out the percentages of vapour to air that can be administered with safety. Dr. Waller implies that in the past the risks were increased by making the percentage too high, as much as 10 per cent of vapour having been inhaled at time, whereas it is now known that from 1 to 2 per cent is at once effective and safe if continuously administered. With the apparatus now available it is

possible to regulate the percentge, though, of course, as Dr. Hewitt urged, there is still the special idiosyncrasy of the individual patient to be reckoned with in exceptional cases. At the medical schools in England and elsewhere special training in the administering of anæsthetics is now being more and more insisted upon, so that students may thoroughly understand the best and latest methods of avoiding accidents. Dr. Hewitt, who is perhaps the most experienced anæsthetist in the world, declares that the percentage method, aided by the knowledge that comes by practical experience, robs the administration of anæsthetics of its terrors.

THE CALCUTTA CORPORATION.

A Filthy Vaccination Station.

The ninth ordinary monthly meeting of the Corporation of Calcutta was held last month.

The proposed amendments of certain sections of the Vaccination. Act were considered.

The Bengal Vaccination Act has been in force since 1880, that is to say a quarter of a century, and after eight years' experience of working under it in Calcutta the Health Officer (Dr. Cook) suggested that it might with advantage be revised, or a short separate Act passed for Calcutta where the conditions of vaccination are quite different from those of the rest of Bengal. The suggestion made by Dr. Cook for the revision of these sections were considered by the Health Special Committee at their meetings held on the 29th May, 15th August, 1906, 29th January and 27th April, 1907. The Committee, made further amendments and asked the solicitor to examine them as they stood after revision by them. The solicitor has made certain suggestions and they are approved by the Health Officer.

One of the amendments referred to the reduction of the fee for vaccination. Formerly the fee charged was 8 annas per head when the vaccinator went to any one's house, but now it was proposed to charge 8 annas only for the first case and one anna for any other child that was vaccinated in the same house. Then again there was an amendment relative to the period in which a child should be vaccinated. The present rule was one year Dr. Cook had recommeaded that this be reduced to three months. The Committee, however, recommended that the time should be six months.

Mr. Wyness wanted it noted that in District IV, the vaccination station was a filthy place. That should not be so.

The Chairman's motion was carried.

The Towers of Silence.

The Corporation next discussed the question of making a contribution for the Paris' Towers of Silence. The Special Committee considered the letter of the Trustees of the Zoroastrian Religion's and Charitable Fund asking for a reconsideration of the grant of Rs. 10,000 made to them by the Corporation on the 27th February, 1907. The Trustees deferred drawing the amount and have come up again after the expiration of six months and have applied for an increase of the original contribution.

After some discussion Mr. Pratt moved an amendment to the effect that the matter be referred back for further consideration and discussion and that representatives of the Parsi community be requested to attend the meeting, at which the matter is to be discussed, with a view of more fully explaining the whole question.

The amendment was put and carried.

The Market Extensions.

The Corporation next considered the comparative statement of tenders received for the extension of the Sir Stuart Hogg Market, and to approve the agreement with the successful tenderer.

Babu Radha Charan Pal moved that the tender of the Bengal Stone Company, amounting to Rs. 5,28,429 odd, be accepted and that the agreement be approved.

Babu Jadu Nath Sen moved as an amendment that the tender of Messrs Matin and Co., amounting to Rs. 5,77,947, odd be accepted.

A discussion had commenced when, it being six o'clock, the meeting was adjourned.

SHORT ITEMS.

The mortality of the city of Lucknow during the week ending the 21st of November 1907, was as follows :—From Cholera 3; Measles 5; Plague 1; Fever 187; Bowel complaints 45; Respiratory diseases 23; Suicide 8; Injuries 3; Other causes 66; Total 341. The ratio of death to 1,000 population was 1.41.

Small-pox is raging furiously at the village of Kenda in the Brahmanbaria Sub-division. Medical aid is urgently needed.

Cholera has broken out among the Indian pilgrims at Kamaran. A case of plague is also reported at Port Said.

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PRICKLY HEAT POWDER.—Instantly relieves the unpleasant itching consequent on the appearance of prickly heat. A boon to worried adults and fractious children. Per bottle, Re. 1. Per dozen, Rs. 11.

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Recommended by the Highest Medical Authorities.

Cannot be over-estimated for promoting the health, strength, growth, and good looks of children. Is actually made from the sea and possesses all the medicinal and curative virtues which render sea bathing so beneficial, both in health and sickness from infancy to old age. Beware of worthless imitations. Analyses 99$\frac{99}{100}$ per cent. of pure Salt, the crystals are easily dissolved, and much more convenient to use than any other brand. Per Tin, Re. 1. Per dozen, Rs. 11.

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Current Medical Literature.

MEDICINE.

SYPHILIS AND THE PUBLIC.

Dr. B. F. Bailey says let us be men and strike where the evil lies. First. Let the disease be declared by every State a communicable and contagious disease and let every case be reported as such under penalty of a heavy fine for neglect on the part of the physician or patient to do so.

2nd. Let every hour of prostitution be under the strictest surveilance and every diseased woman removed therefrom and placed in a State hospital provided for that purpose and there detained until she can be given a certificate of health, and during time of detention every effort made to turn her from such a life, and honest employment at living wages furnished her on leaving, even if it be State work. We owe our people the subjects of inheritance and misfortune at least this much paternalism. It is admitted that it is difficult to always detect syphilis in a woman and that surveilance has heretofore been a failure because of the appearance of disease manifestations between examinations. This we may to a great extent overcome by our third measure which has, so far as the author knows, never been tried.

3rd. Let every man who visits a house of prostitution be obliged to show to an officer of the city or country a certificate of health to have on it his own signature for purposes of identification. We know it is easier to detect the disease in man than in woman, and than man carries, it from house to house and further scatters it abroad among the innocent and unwary.

4th. Let the statute prevail in every State that no license shall be issued for marriage and no marriage shall be legalized without such license until the applicants for marriage have presented a certificate of health from a legally qualified practitioner, the same being countersigned by the president or secretary of the State Board of Health, he having first examined the records of reported luetic disease in the office of the State Board of Health and verified the physician's signature as that of one legally qualified to practice medicine.

5th. The fees for all certificates under the above provisions to be fixed by statute, and evidence that any one has charged less or more for said certificates than the amount fixed by law to be conviction of favoritism or bribery and punished by fine as a misdemeanor,

6th. That a brief and forceful exposition of the history, character, and dangers from and mode of tramission of leutic diseases be prepared and adopted by the State Board of Health of each State and a copy of the same placed in the hands of every boy and girl in the State at the age of fifteen years. That at the same time a copy of the same be placed in the hands of the parent or guardian of each child with a request for help and admonition to be extended to the child in the reading and study of the article furnished by provision of the statute. The carrying out of these efforts for the suppression of syphilis and gonorrhoea will not remove the evil in a day, but if persisted in will in a generation eventuate in a great lessening of new cases and in two decades may lessen the State expense for caring for the incopetent enough to far more than pay for the cost of enforcing luetic statutes.

EMBOLISM.

Hall (Practitioner) remarks that the circulatory system, like any other system of pipes and tubes, may get out of order, plugging or embolism being one of the possibilities. Embolism is favored by the variation in diameter of the vessels. It implies a pre-existing morbid condition, which produces in the blood-stream a substance which cannot circulate. The position in the circulation where embolism occur depends upon the size of the embolus. The circulation, with respect to embolism, may be divided into three parts, separated by impassable capillaries. One part extends from systematic venules to pulmonary arterioles, another from pulmonary venules to systematic arterioles, and third from gastro-intestinal venules to interlobular portal venules.

Two types of embolism are considered, multiple embolic aneurisms and pulmonary embolisms. The former originate from valvular vegetations of the left heart associated with rheumatic or infective endocarditis, and are rapidly fatal if they attack the intracranial vessels. The latter usually begin as thrombi in the systematic veins, death occurring suddenly, with perhaps, on precedent evidence of any serious condition.

SURGERY.

PRIMARY TUMOR OF THE PNEUMOGASTRIC; RESECTION OF NERVE; RECOVERY.

Mr. Venot (Revue de Chirurgie, August 10, 1907), relates to the Societe de Chirurgie the case of a man, aet. thirty-two years, who whilst hunting, was shot in the antero-lateral region of the neck. There gradually appeared, at the site of injury, a tumor accompanied by huskiness of voice from paralysis of the left vocal cord, pains in the corresponding ear and cardiac disturbances, such as palpitations and pricking heart pains, increased by any fatigue or effort.

Venot saw during the operation that the tumor was encapsulated and continuous above and below with the pneumogastic.

Traction on the tumor caused a violent and alarming glottic spasm, which ceased only after section of the pneumogastric, above and below the tumor.

The severed ends of the nerve were too separated to enable restoration of the trunk. The patient recovered and all pathological phenomena disappeared, the altered voice alone persisting.

Histological examination of tumor revealed a fibro-sarcoma. This case seems to be unique, as Venot has been able to collect but one somewhat similar. Venot lays stress on the importance of his case, emphasising once more the greater gravity of pneumogastric irritation as compared to its section.

He witnessed a death from exciting the pneumogastric during an extirpation of the cervical sympathetic.

PRIMARY CANCER OF THE VAGINA AND ITS OPERATIVE TREATMENT.

Jacob (Zent. f. Gyn.) says that this affection is comparatively rare and occurs in general after the menopause. This rarity is due to the small number of glands in the vaginal walls and the small amount of vascular tissues, as well as the ease of regeneration of the vaginal epithelium. There is much difference of opinion as to its operative treatment. It usually occurs in multiparæ. It may be diffuse in form, or begin with small circumscribed nodules, which become crater-form ulcers. It generally occurs on the posterior vaginal wall, which is most exposed to irritation and erosion, and in the upper third. It is one of the most malignant types of growth, quickly involving the underlying connective tissue and the neighbouring organs. This rapid involvement depends on the small amount of muscular tissue in its walls and on the lymphatic connections, which go to the broad ligaments and the rectum. From the vaginal wall the cancer soon passes to the cervix by the lymphatic glands as well as by implantation of cancer particles. The prognosis is very bad and recurrence frequent. Treatment can only be by operation, and there are several methods of approach by vagina, by the perineum, and by the sacrum. The uterus must be extirpated at once, on account of the faility of recurrence in it, as well as the possibility of hematometra or hydrometra if it is left behind. The author describes the operation in two typical cases of vaginal cancer in women forty-four and fifty-seven years of age. He used the perineal operation, by which, although the operation is long, the cancer is kept entirely outside, the wound, lessening the danger of implantation; bleeding is not very great; there is room for the operation; extirpation of the uterus is easy, and there is enough material left to make a useful vagina in married women.

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OBSTETRICS.

IMPACTED CERVICAL MYOMA DURING LABOR. VAGINAL ENUCLEATION AND VIGINAL CESAREAN SECTION.

By Dr. H. Pape (Zent. f. Gyn).—The patient was a 34-year-old primipara who had always been well. Nine days previously the waters had escaped and for eight days she had suffered constant pain. A "contraction ring" between navel and symphysis was mapped out. Fetal heart sounds still audible. Fetal beat was felt above the pelvic brim. The cervix lay high and immediately behind the symphysis. The cervix admitted one finger. The pelvis was nearly filled by a tumor, suggesting a dermoid cyst. Because of the fetid odor of the discharge and the circumstance that the patient had been otherwise subjected to infection, the author decided against abdominal section.

A longitudinal incision was made per vaginam over the tumor which proved to be a myoma. After a partial morcellation, the tumor was enucleated and delivered. A vaginal Cesarean section was now done and with the aid of high forceps an asphyxiated child was removed. A lateral perineal incision was also made. After expressing the placenta the wounds were sewed and drained. The woman recovered.

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for itching, eczema, face spots, prickly heat, sunburn and all skin irritation (in 4 sizes).

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for redness, roughness, chafes, excoriations, toilet and nursery (in 4 sizes).

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PATHOLOGY.

CONVEYANCE OF INFECTION BY DOMESTIC PETS.

By Dr. Remlinger (Revue Scientifique Dec. 29, 1906; Ref., Journal of the Royal Institute of Public Health May, 1907, p. 387.)

Dr. Remlinger, Director of the Pasteur Institute at Constantinople, makes a communication with regard to some experiments carried out with a view to testing the possibility of pathogenic organisms being carried in the fur of domestic pets. He took cats and dogs for his experiments and infected their coats with broth culture of various micro-organisms. At intervals of three or four days a few hairs were cut off and examined culturally. The organisms tested were B. typhosus, B. diphtheria, B. pyocyaneus, B. anthracis. He found the B. typhosus existed in the hair up to the 17th day B. diphtheria lived till the 24th and when cultivated showed no diminution of virulence on injection into a guinea-pig. B. pyocyaneus lives for 16 days B. anthracis retains its vitality indefinitely.

THROAT SYMPTOMS ARISING FROM DISEASE OF THE SALIVARY GLANDS.

By Dr. Kretschmann (Archiv. f. Laryngologie und Rhinologie, Vol. XIX, No, 1).

The author writes a very verbose but not valuable article upon the hyperesthetic and neurotic symptoms arising in the throat from disease in the associated region. He considers in detail the anatomy of the floor of the mouth, the construction of the lymphatic glands, and then says that in disease of the floor of the mouth difficulties of swallowing, darting pain sensations, burning and pressure often arise from disease of the glands of the floor of the mouth. In other cases the feeling of a foreign body in the larynx, neuralgic pain in the throat, sometimes severe pain in the ear, are caused by these same conditions at the floor of the mouth. He concludes: (1) That many throat symptoms arise from pathological changes in the salivary glands at the floor of the mouth; (2) these changes are mostly of a non-inflammatory nature, seldom simply functional; (3) the diagnosis is made by the enlargement and sensitiveness of the salivary glands to pressure. This is very easy to distinguish by manual palpation. The treatment for disease of this form is by manual massage of the floor of the mouth and salivary glands.

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THERAPEUTICS.

HYDROGEN PEROXIDE IN THE TREATMENT OF CORNEAL ULCERS.

Jacqueau, of Lyons, treats corneal ulcers by repeated irrigations with a solution of six per cent. by volume of hydrogen peroxide. This is twice the strength of the commerical solution. He obtained remarkable success with this treatment in severe keratitis and in several cases of traumatic ulcers of the cornea complicated by hypopyon. The patients recovered completely in less than a month. In one case the anterior chamber was evacuated by an incision and the ulcers were also cauterised several times. In another case of the same sort, no other treatment was used save hydrogen peroxide and after three days the pain had disappeared, the pus had almost completely vanished and the patient returned to work twenty-five days afterward.

The treatment is even of value when the ulcer has perforated the cornea. In one case of traumatic ulcer, perforation occurred while the lotion was being applied and bubbles of oxygen were seen in the anterior chamber, showing thus that the hydrogen peroxide had penetrated. In spite of the perforation the ulcer cicatrized very rapidly.—Semaine Medicale.

PNEUMONIA.

Wm. P. Northrup, in the New York Medical Journal for July 6, considers the treatment of pneumonia in infants and young children. Treat the patient as though he had an infectious fever. He insists upon hygienic precautions and surgical cleanliness in the case of the infectious diseases in infants. Free evacuation of the bowel is the first indication, and the fever will diminish a little, at least temporarily. After thorough cleansing of the intestinal tract with castor oil, give some substitute for milk for 24 hours, then gradually and diluted and peponized milk. Remember that in the height of fever, in a severe case, digestion of milk may be quite impossible. Substitute water temporarily, barely water some thin preparation of food or egg albumen, anything is better

than raw milk at first. Infants and children have new and uninjured hearts, and the heart is frequently over-treated in the young. They do not require regular stimulation, that is stimulation by rule, only exceptionally do they require it. Nurses and physicians all watch the pluse too much, and the general condition too little! The experience with adults leads to this and the same need be for heart stimulants does not exist. The consequence is the children are overdosed. Make the child comfortable and let it rest. Avoid poultices unless for local pain, using them only intermittingly, letting the skin become dry between applications, and discontinue as possible. He sumarizes the treatment as, purgation, calomel and castor oil, or castor oil alone in full doses. Careful feeding to avoid flatulence. Plentiful use of water for drinking and bathing. Quiet and undisturbed rest. Fresh, cool, flowing air. Antipyretics, bathing, sponging, cool drinks, no coal-tar products. Heart stimulants, wine, whiskey, stryconin. Early recognition of any complications, and their treatment.

QUININ.

In American Medicine for May, Hardee Johnston believes that quinin has a direct inhibitive action on the pneumococcus itself, and so has some specific action in pneumonia. He asserts that there is no doubt that quinin will effect a reduction of temperature in pneumonia, and yet we know that the drug is no true antipyretic. One fact must not be lost sight of in administering quinin in pneumonia, that is the danger of a reinfection from the consolidated lung area which we cannont reach. To counteract this danger, it becomes necessary that the quinin be given continually throughout the attack. He states that while the use of quinin in pneumonia is not at all new, it has usually been given not for any specific action but for its antipyretic action. His experience in the use of the drug in pneumonia extends over nine years, and while the number of cases is small, the uniform results may count for something, he having lost but one case. He has treated between 50 and 60 cases and has given quinin in from 0.2 to 0.3 grams (3 to 5 grain) doses, repeated every two hours until 0.8 to 1.3 grams (12 to 20 grains) are taken, the amount given varying with the mildness or severity of the symptoms. He has occasionally combined with it a minimum dose of actenalid but the quinin he has kept up steadily throughout the entire attack irrespective of anything else that may be given and he has never seen any untoward action, or other than the best results. He believes in its specific action, but supplements it with symptomatic treatment when necessary.

CARDIAC DILATATION.

In the Central States Medical Monitor for May, Chas. R. Sowder states that we should have three considerations in mind in the treatment of dilatation aside from the immediate relief of distressing symptoms. First, to arrest and retard the degenerative process; second, to lessen the mechanical work of the heart; third, to raise the tone of the cardiac muscle. The urgent symptoms to be met, those of threatening failure shown by dyspnea, weak, rapid and irregular pulse, are best relieved by digitalis, strychnin and caffein in sufficient doses. In many cases 10 to 15 days absolute rest work will wonderful changes for good. Following the rest in bed, exercise should be gradually resumed, and all sudden strain on the heart carefully avoided. For the heart itself digitalis serves us better than any other drug and a standardized tincture should always be used. He summarizes: first, absolute physical rest in bed for a time followed by a life free from worry or excitement, moderate exercise, good, easily-digested, nourishing food, and strict attention to the eliminative organs. Second, digitalis and strychnin with iron for anemia; if possible, the relief of the cause.

VACCINE TREATMENT.

Rufus I. Cole, in the International Clinics (Vol. II. 17th Series), treats of the vaccine treatment of infectious diseases. He believes that sufficient clinical evidence has been presented to make it more than justifiable to employ this method, but we should guard against too hasty conclusions. Above all it should be insisted upon that the opsonic index is of absolutely no value unless carried out with the greatest care, and by one having considerable experience. Vaccines have been employed most largely in the treatment of chronic staphylococcus infectiou such as acne and furunculosis, gonococcus infections, to a less extent in streptococcus infections, in colon bacillus infection, tuberculosis and in isolated instances in almost all infections in which the etiologic agent has been isolated. It is impossible to enter into all the variety of cases in which vaccine treatment has been thought advisable and has been carried out, but clinical results indicate that the method is of value. The results are hopeful and the method should be continued until we have absolute data as to its value.

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Infants - - Take from Half to One Teaspoonful twice a day in milk.
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AN APPEAL.

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Connected with the College are a small Indoor Male and Female Hospital, also a well-attended Outdoor Dispensary. In both the HOSPITAL and DISPENSARY everything is free: diet, bedding, medicines, medical comforts, etc. The yearly attendance at the outdoor dispensary is over 10,000 cases.

The Executive Committee solicit public support to enable them to fully and more fittingly carry out the objects of the Institution, more especially of the attached Hospital and Dispensary. The College, with its connected departments, have been maintained, in the past, partly from the fees of the pupils which is quite inadequate for the purpose. The expenses connected with the upkeep of the Hospital and Dispensary are enormous.

Funds are urgently required

1. For medicines, surgical instruments, bedding, diet and other hospital necessaries.

2. For building a Hospital which, unlike the present building, will be the property of the College. For the "Hospital Building Fund" subscriptions and donations are specially solicited.

Gifts of clothing, bedding, suitable furniture, furnishings, medicines, surgical instruments, microscopes, pathological and other specimens, medical books and medical journals (old or new) for the library, articles of food (suitable for European and Native patients, etc.), will be thankfully received.

The Members of the Medical Profession, in India, are respectfully asked to co-operate and help, as much as lies in their power.

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Audi Alteram Partem.

THE HEALTH OF THE ARMY.

TO THE EDITOR, THE INDIAN LANCET.

SIR,—The Army Medical Department report for 1906 has been issued. Taking the health of the Army as a whole, there was for the year a distinct improvement. To begin with the admissions to hospital, it appears that these have fallen steadily during the past sixteen years from nearly 1,060 per 1,000 of strength to less than 600. In the group of general disease—confining ourselves to the troops serving at home and in India—there was, in 1906, a decrease in admissions of about 66 per cent, at home and about 30 per cent in India. Tubercle of the lung showed in 1890 nearly four admissions per 1,000 of strength in the United Kingdom and 3.26 per 1,000 in India. These figures had fallen in 1906 to less than three per 1,000 in the former case and somewhat under two in the latter. Diseases of the nervous system accounted for 9.3 admissions per 1,000 in the Army serving at home in the year 1890 and for 10·3 in the Army of India in the same year. In 1906 this group of diseases showed an admission rate of only 6.25 and 9.88 in the two Armies respectively. The foregoing and other facts show that the improvement in the general health of the Army since 1890 cannot be attributed to a decrease in the incidence of one particular disease, but to a general improvement in all directions. It is probable that one great cause of this is the increase of temperance in the Army during late years, but the greater proportion of the improvement may fairly be attributed to improved sanitation. It is of interest to compare the health of the British Army with that of foreign armies. Taking all diseases, it seems that the United States Army heads the list with the enormous admission rate of 1,250 per 1,000. After this come the French, German, and Austrian Armies all above 600. Fifth in the list is the British Army serving in the United Kingdom, and lowest of all the Russian Army, with the low figure of 324 admissions per 1,000. Cardiac affections are much more prevalent in the Army in the United Kingdom than in any other army. The high rate in the British Army is usually attributed to the poor condition of the recruit on enlistment, and the severity of the training through which he has, till lately been put. The report shows that the effect of foreign service is to increase all the ratios except that representing men discharged from the Service. The total loss due to death is about trebled by foreign service, the increase being due mostly in the more acute forms of disease—e.g., entric fever to India, Malta fever in Malta, malarial fever in Mauritius, Straits Settlements, and West Africa. The death rate at home is 2.92 and abroad 8.30. The loss due to discharge as invalids is not increased by foreign service. This appears to be due to two main causes. The first, that the man who go abroad are carefully inspected before selection for foreign service; and second, that a considerable number of men are sent home from abroad for change who are still able to remain in the Service, but who would be lost to it if they had not received the advantage of an early change of climate. South Africa takes the first place for healthiness of all groups abroad. The deathrate of India is far higher than that of any other group and makes the total wastage by death, and discharge equivalent to about 20 per cent. 1,000, the highest of all the four foreign groups.

Yours etc.,

E. H.

PRIVATE MEDCAL PRACTITIONERS.

TO THE EDITOR, THE INDIAN LANCET.

SIR,—Sir Denzil Ibbetson, presiding at the annual prize distribution of the Lahore Medical College, said :—

"I have always regarded the deffusion of Medical and Surgical knowledge as one of the best things we have done in India and one great advantage attaching to Medical education in this country is that it stands absolutely apart from all political currents. I should like to see the work enormously extended,

We have been told by Colonel Perry of the growth and development of the College in the last fifty years. But I should like to see five times the present numbers of students in attendance. I shoul like to see competent medical aid provided for every class of the population and, indeed, for every individual who desires to avail himself of it. But if this is to be achieved we must mainly rely upon Indian agency for the expansion. What India praticularly wants in this direction at present is not more Official Medical Officers but more private medical practitioners. Trained young men in large numbers are wanted to set up in medical practice on their own account. The process has begun in some of the great cities, like Calcutta, where a very considerable numb:r of private doctors are building up a wide practice, and in the Punjab a large number of retired Assistant Surgeons have taken up private work. But I want to see more of the young men who come here to study and to qualify to start, while in their youth, upon a career of private practice instead of fixing their aims upon official employment."

Yours etc.,

A. N. C.

BOMBAY NATIVE DISPENSARY.

To the Editor, The Indian Lancet.

SIR,—The annual meeting of the subscribers of the Bombay Native Dispensary including the N.M. Petit Charitable Dispensary at Khetwadi was held at Sir D. M. Petit's office, Sir Currimbhoy Ebrahim presiding.

Mr. Jehangir R.M. Desi, Secretary, read the Managing Committee's report for the years 1905 and 1906, which stated that those were the 71st and 72nd years of the existence of the institution. The total funds at the beginning of the period under report were Rs. 2,85,412-14-10 which increased to Rs. 2,92,579-11-2 at the end of 1906. The income of the same period under report was Rs. 27,320-10-8 against Rs. 18,003-0-6 and the expenditure was Rs. 20,153-14-4 against Rs. 18,579-11-10 of the previous two years. During the period under report the two dispensaries were found to be very useful to thousands of the poor of every caste and creed as before,95,142 new patients were treated during the period under report as against 97,542 of the previous two years. Out of the 95,142, there were at Chandanwadi Dispensay 52,923 and at Khetwadi 42,219. The 95,142 patients attended the dispensaries 196,232 times, giving a daily average of 406.

On the motion of Mr. N. J. Gamadia the report was adopted. The meeting terminated with a vote of thanks to the Chairmen.

Yours etc.,

REFORM.

CHOLERA IN CALCUTTA.

To the Editor, The Indian Lancet.

During the past three months of 1907 there has been an excessive number of cases of cholera in the northern section. The increase began in October and reached its highest level in the week ending the 30th November last, when as many as 143 cases were reported. Since that date the disease has rapidly subsided, last week's report showing only 51 deaths, which is below the average for the past five years. The incidence amongst Hindus has been particulary marked, Mahomedans suffering very much less in proportion to their respective population. The explanation of this increased mortality amongst Hindus is that their religious rites compel them to use river wate whereas Mahomedans are not under this obligation, and for the most part use the filtered water supplied by the Municipality.

Cholera in an epidemic from had been existent in the surrounding districts of Bengal; and a large number of the cases which occurred in Calcutta were those imported into the city from th mofussil. The impure waters of the Hooghly and of Tolly's Nulla were however responsible for the greater number of cases of cholera in the city.

It has been shown by Dr. Pearse, the Health Officer, in a special report that the disease is particularly prevalent in the wards which border on the river and Tolly's Nulla. The outbreak may now be said to be over, for only the normal number of cholera cases occur at the present moment, But there is, in Dr. Pearse's opinion, every probability that a fresh outbreak will occur, in connection with the approaching festival Ardhodoya Jog, which will be held at Kalighat on the 2nd February next. Many thousands of Hindu devotees from distant parts of Bengal and other places are expected to be present at this festival, which comes off only once in twenty or thirty years. The Health Department of the Municipality is making special arrangements to meet the emergencies of this important occasion.

Yous etc.,

R. F.

Those drugs which invariably effect the immediate relief of menstrual disturbances by acting directly, and in an agreeable manner, upon the reproductive apparatus, are collectively presented in

ERGOAPIOL (SMITH)

The preparation exerts an impressive anodyne and sedative effect upon the uterus and ovaries, and imparts vitality and functional activity to the entire generative system. While the function-promoting action of the preparation is surprisingly prompt, no untoward effects attend its administration.

ERGOAPIOL (SMITH)

IS OF INESTIMABLE IMPORTANCE IN THE TREATMENT OF

AMENORRHEA, DYSMENORRHEA

AND OTHER

MENSTRUAL IRREGULARITIES.

DOSE.—ONE TO TWO CAPSULES, THREE OR FOUR TIMES A DAY, ACCORDING TO THE EXIGENCIES OF THE INDIVIDUAL CASE.

Ergoapiol (Smith) is marketed in metal boxes containing twenty capsules. The preparation is obtainable at all prescriptionists.

LITERATURE.—PAMPHLETS BEARING UPON THE THERAPY OF THE PREPARATION WILL BE SENT, POST PAID, ON REQUEST.

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ORIENTA APERIENT WATER

Is a clear, pure water, containing the most soluble purgative salts effectively combined.

Acts as an intestinal antiseptic, as well as a purgative, eliminating germs and preventing auto-infection (ptomaine poisoning). This action is solely due to sodium sulphite contained as a fixed compound in the water.

Is acceptable to nearly all patients, as it never produces nausea, weakness nor thirst. In its use purgation is not followed by constipation, as is unfortunately and commonly the case with other purgative waters.

Does not weaken; it produces a tonic effect, stimulating the whole system; appetite is increased, sallowness and foulness of the breath disappear, headaches and vertigo vanish.

Is the only purgative water the use of which is unaccompanied with disadvantages in genito-urinary diseases.

Relieves women suffering with hemorrhoids and diseases of the uterus and ovaries, by reducing the congestion of the pelvic viscera.

Re-establishes the normal flow of bile, and is thereby a prophylactic in cases of biliary colic, due to the passage of biliary calculi.

Is indicated in cases of flatulency, bilious attacks, eczema, glandular enlargements and scrofula.

Benefits chronic nervous conditions, atony of the stomach and intestines, certain forms of diseases of the heart and circulatory system, chronic cases of skin affections and certain diseases of the lungs.

If used regularly alone, will often suffice in cases of influenza, diarrhœa, malaria, gastric and febrile disorders and infectious diseases by enabling the engorged, digestive, circulatory and lymphatic systems to regain their normal condition.

Acts in trifling doses. One small wineglass taken on an empty stomach immediately before breakfast produces a well-marked laxative effect in an adult. The dose for women or children should be reduced to one-half or one-third.

Is now considered an indispensable mineral water, especially in large city practices where it is important to husband the patient's strength, under penalty of their developing anæmia, or breaking down under the nervous strain and becoming neurasthenics.

Is cheapest because best. It is now prescribed by the leading physicians and stocked by all first-class retail druggists.

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A sample bottle will be sent free to any Physician if he will pay express charges.

SOLD EVERYWHERE.

PLAGUE IN INDIA

To THE EDITOR, THE INDIAN LANCET.

Under the auspices of the Bombay Sanitary Association, Captain W. G. Liston, Acting Director-in-Chief, Bombay Bacteriological Laboratory, delivered a lecture on "The Prevention of the Spread of Plague in India," the Hon. Mr. J. W. P. Muir Mackenzie presiding. There was a large attendance.

The lecturer commenced his discourse by describing how the plague was conveyed to man by rats and proceeded to consider the measures that might be adopted for the prevention of the spread of plague. These were of two kinds, measures of permanent utility and measures of temporary utility. The measures of permanent utility were concerned with the reforming of manners, customs and modes of living of the people namely, those habits which brought about the association of rats with man. They dealt with the drawing up and enforcing of regulations which prevented the erection of kutcha buildings and which insisted upon the maintenance of houses in a proper state of repair. Too frequently they saw in Bombay dilapidated houses often unoccupied, not only disfiguring the city, but affording shelter to rats. Measures should be taken to make places which were likely to afford harbourage to rats, ratproof. Rules should be made which prevented grain-stores, godowns and stables being occupied below human dwellings. Above all means should be found to prohibit people from using the gullies and public streets as depositories for refuse. A better symptom was urgently needed for the collection and removal of house refuss. The Health Department should insist on tenants maintaining not only their own rooms in a clean and tidy state, but also the stairs and corridors. Housing Acts should be passed and rigidly enforced empowering the Health authorities to deal with these matters. The keeping of animals in dwelling houses be strictly prohibited. All these reforms would take time, but a beginning should be made. It must be made in the larger towns where education was more advanced. What an opportunity for demonstrating the advantages of local self-government Would the Municipality try to effect some of these much-needed reforms? It would be hopeless to expecs to carry out these reforms in the villages where education not yet advanced enough but when the cities purged themselves of these blemishes the villages would be directly benefited, for the cities were the great disturbing centres of the disease. The only action which the unfortunate villages could take in the meantime was to insist on a modified form of quarantine and prevent those who had come from infected places entering their village, until they had taken measures to rid themselves of any fleas they might have brought with them on their person or in their kit

TEMPORARY MEASURES.

Measures of temporary utility could be grouped under the three following headings: (1) Rat destruction; (2) evacuation and (3) inoculation. All those measures required to be repeatedly carried out and in this respect rat destruction and evacuation possessed no advantage over inoculation. While, however, the first two measures could be carried out by the people themselves, the latter required the employment of a special staff.

Rat destruction was a measure which appeared to strike at the root of the evil and had the great advantage that it interfered little with human comfort. The disadvantage of rat destruction lay in the fact that to be successful this measure must have the complete co-operation of an entire community and the operation must be extensive and sustained. The destruction of rats either by the use of chemical poisons or by the dissemination of bacterial disease among them had not proved as successful as was anticipated. It must be remembered that no more efficient rat destroyer than plague itself had yet been discovered. Trapping rats alive and then destroying them had yielded

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A combination of the Tonic, Alterative and Laxative Salts similar to the celebrated Bitter Waters of Europe, fortified by the addition of Lithia and Sodium Phosphate. It stimulates the liver, tones intestinal glands, purifies alimentary tract, improves digestion, assimilation and metabolism. Especially valuable in Rheumatism, Gout, Bilious Attacks and Constipation.

Most efficient in eliminating toxic products from intestinal tract or blood, and correcting vicious or impaired functions.

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better results when daily practised. From the experiments carried out in Worli and in other villages it would appear to be necessary to remove from Bombay city about 1 millions of rats within one year to reduce the rat population by one quarter. To effect this about 20,000 traps would have to be set each day and a special staff of about 1,000 men engaged to work the traps. About 14,000 rats a day should be caught to begin with and after a year's operations, about 4,000 rats each day must be destroyed. Any cessation of the operations would be followed by a rapid multiplication of the rats the majority of which would be young and susceptible to the disease so that the epidemic would be proportionately severe.

DISADVANTAGES OF EVACUATION.

Coming next to evacuation he found it hard to say a good word for this measure. To be of any use it must be carried out early and completely—conditions which could only be attained in a small village. It should be remembered that even when evacuation was not practised only 20 per cent. to 30 per cent. houses yielded more than one case, and when two or more cases occurred they were generally attacked together so that to have a house after a death had occurred in it was useless. In towns many became infected at their place of work. In Parel village, for example, the Plague Commission found that nearly 70 per cent. of the cases acquired their infection at their place of work. Then let them consider the hardships of evacuatien, the discomfort it produced. But the greatest disadvantage of evacuation lay in the increased opportunities for spreading the disease. They saw how man was a potent factor in carrying infection from infected places to healthy areas. Now, when evacuation was practised this means of spreading the disease came into full play, for many preferred to go to live with friends in uninfected places rather than submit to the discomforts of camp life. Moreover evacuation tended to convert the fear occasioned by the high mortality associated with the disease into a panic and the disease was thus spread far and wide. He might recall to their memory the panic and fight associated with the commencement of the epidemic in Bombay and how rapidly the disease was spread in this way.

RESULTS OF INOCULATION.

The advantage of inoculation lay in the fact that it was a measure of personal prophylaxis. It mattered little who else did or did not co-operate in the measure. Those inoculated at least were safe. It was a measure which could be carried out easily and cheaply once a year. A guarantee could be given that at least six times the saving of life would be affected among the inoculatad as compared with the uninoculated. When inoculation was more extensively adopted an even greater saving of life might be obtained. Every case which was saved from the disease afforded many less opportunities for the spreading of infection by friends who would have come from other towns and villages to attend the funeral ceremonies. Moreover inoculation instilled into those who underwent the operation that confidence which was so necessary in averting a panic. When the majority in a village were inoculated, the epidemic assumed such moderate proportions that it could be dealt with easily and it was possible to adopt measures to prevent the spread of infection to adjoining areas. Inoculation checked the spread of plague directly by lessening the number of attacks and reducing the mortality from the disease correctly by quelling panic and thus reducing the chances of importing the disease into uninfected places. The lecturer then proceeded to give statistic to show the good results achieved by inoculation in different parts of the country. He assured them that there was absolutely no foundation in the various rumours that were spread abroad that inoculation did any harm to those who were obviously not ill. He asked them, could any single anti-plague measure show anything like the results which have been achieved by inoculation? He might add in conclusion that the working members of the Plague Research Commission and their staff who were constantly exposed to infection attributed their safety to inoculation.

Yours etc.,

W. G. L.

Wanted known, that a Dispensary, where all medical and surgical accessories are available has been opened at 3, Wellesley Street, under the name of Ellwood & Co.

Prescriptions dispensed day and night, and urine analysis done.

Dr. N. N. Dey, L.R.C.P. & S., Edin. L.F.P. & S., Glasgow &c., can be consulted daily between the hours of :—

8 to 9 A.M.

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In all disorders of the respiratory tract in which inflammation or cough is a conspicuous factor incomparably beneficial results can be secured by the administration of

Glyco-Heroin (Smith)

The preparation instantly diminishes cough, augments expulsion of secretions dispels oppressive sense of suffocation, restores regular, pain-free respiration, and subdues inflammation of the air passages.

The marked analgesic, antispasmodic, balsamic, expectorant, mucus-modifying and inflammation-allaying properties of

Glyco-Heroin (Smith)

explain the wonderful curative action of the preparation in the treatment of

Coughs, Bronchitis, Pneumonia, Laryngitis, Pulmonary Phthisis, Asthma, Whooping Cough

and the various disorders of the breathing passages.

Glyco-Heroin (Smith) is admittedly the ideal heroin product. It is superior to preparations containing codeine or morphine, in that it is vastly more potent and does not beget the by-effects common to those drugs

DOSE—The adult dose is one dram, repeated every two or three hours. For children of more than three years of age, the dose is from five to ten drops.

Glyco-Heroin (Smith) is marketed in one-pound bottles, thus enabling the physician to prescribe whatever amount the individual case may require. The prevailing prescriptions are for three ounces. The preparation is obtainable at all prescriptionists.

LITERATURE.—Exhaustive literature bearing upon the preparation will be sent, post paid, on request.

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Chloralamid. Superior hypnotic without harmful or unpleasant by-effects, having the following advantages over Chloralhydrate—Its action develops more gradually. The depressing effect of Chloral upon the heart is counteracted by the action of the formamide contained in Chloralamid. It does not cause headache. Chloralamid should on no account be dispensed in hot solutions.

Lævulose. Is fruit-sugar for Diabetics, being perfectly assimilated, and constitutes therefore a superior dietetic also for consumptive patients.

Phenocoll. Soluble Phenacetine. A valuable anti-pyretic, anti-rheumatic, and anti-neuralgic. Recommended in malarial fever. Harmless to the action of the heart and circulation of the blood.

Piperazine. Freely dissolving urinary deposits, is promptly eliminated by the kidneys, and perfectly harmless. Strongly recommended in all cases of uric acid diathesis.

Sublamine. A preparation containing Mercury Sulphate and Ethylenediamine in chemical combination. By the presence of Ethylenediamine the irritating action to the skin is entirely avoided, and, what is equally important, a most phenomenal penetrative power is secured for the metallic disinfectant, inasmuch as the presence of Ethylenediamine prevents the coagulation of the albuminous substances of the skin usually produced by metallic agents, and thus permits of easy and deep penetration of the Sublimate without any inconvenience. Recommended for thorough hand disinfection. [of Berlin.

Urotropine. Registered Trade Mark. Manufactured under the control of Prof. Dr. A. Nicolaier, A valuable urinary antiseptic and uric acid solvent, very efficient in all suppuratory diseases of genito-urinary tract, pyelitis, cystitis, with ammoniacal decomposition of the urine, phosphaturia, and also in gouty and rheumatic affections, where active elimination of uric acid and the urates is required. Highly recommended in typhoid bacteriuria as a prophylactic against the spread of typhoid fever.

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WE are walking in the dark when we prescribe a preparation of unknown strength. We are compelled virtually, to make a physiological test of the drug upon our patient. The manufacturing pharmacist should do this work for us. He has facilities that are not available to the physician and the dispensing pharmacist. Let the manufacturer of drug extracts standardize his preparations by chemical assay when possible, and by physiological assay when the older method is inexpedient. Then the physician will be spared the humiliation of palpable impotence in the face of danger. There will be no occasion for experiment at the bedside.—*From Editorial in Buffalo Medical Journal, U.S.A.*

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Nervous Exhaustion, or Neurasthenia, as it is now called, is well defined by that world-famed scientist and investigator

DR. JAMES H. BEARD, M.A., M.D.,

to be "a chronic functional disease of the Nervous System, the basis of which is impoverishment of Nervous force, waste of Nerve tissue in excess of repair, hence the lack of inhibitory or controlling power—physical and mental—the feebleness and instability of nerve action, and the excessive sensitiveness and irritability, local and general, direct and reflex. The fatigue and pain that temporarily follow excessive toil or worry or deprivation of food or rest, are symptoms of Acute Neurasthenia, from which the chronic form differs only in permanence and degree. Nervousness is really Nervelessness." There are thousands of people who, given up as incurables, their strength and powers undermined as a result of Nervous Exhaustion, to whom "NEW LIFE AND VIGOR" are magic words, are languishing for the greatest of all blessings: Robust Health and Restored Vitality. To all such we commend the use of B. & S. SOLUTION, the celebrated remedy discovered by Dr. Lawrence, M.D., which has been used in all parts of the world for over quarter of a century.

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This remarkable compound, the result of the latest developments of modern Chemistry, Pharmacology, and Therapeutics, is without an equal in all cases of Nervous Exhaustion and Premature decay, whether induced by worry, overwork, or other exhausting causes. As a real nervine tonic and invigorating agent it has no equal in the whole field of Therapeutics and may be relied upon to impart "NEW LIFE AND VIGOR," and to restore weakened constitutions to pristine strength and energy. When every other medicine has failed, B. and S. SOLUTION has been prescribed in the most inveterate cases by the best physicians with success, and there are thousands of living witnesses to attest to the benefits derived from this great modern invention. The Profession will find it to be without a rival and the finest medicine ever brought to their notice.

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In strong terms to the merits of B. & S. Solution in such words as the following:

Dr. Dhever, L.M.S., Shimoga: "My patient is improving."—Dr. Day, M.B., Tirhut: "From the use of one bottle of your preparation, I have received such encouraging report from a patient that I intend whenever I have a chance to recommend it."—Dr. Chill, M.A., M.D., Dhurrumpore: "The results are surprising and are more than I anticipated."—Dr. Das L.M.S., Dinapur: "Send another bottle. The first appears to have done some good."—Mr. M. M., Dacca: "Send three bottles, as ordered by Dr. Burnett." Mr. M., Kindat: "I am recommended by the Civil Surgeon that B. & S. Solution is a good remedy for Nervousness and Debility."—Dr. Spinner, B.A. M.D., Ootacamund: "I have used nothing in my practice better."—Dr. Mudliar, Medical Specialist, Madras: "Surprised at the results."

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Reviews of Books.

Index of Treatment.—By various authors. Edited by Robert Hutchinson M.D., F.R.C.P. and H. Stansfield Collier, F.R.C.S. Published by John Wright and Co. Bristol.

This work is very neatly arranged and an exhastive one. It furnishes the practitioner with a complete guide to treatment in a moderate compass. It is in a convenient form for reference. The names of most of the contributers with special knowledge is a sufficient guarantee of the intrinsic value of the text.

It has been brought up to the best and most modern methods of dealing with disease. The simplest and the most effective procedures have been given. We can strongly recommend this book to the medical public and hope that it will be an addition to every practitioner's library.

Government Medical Notifications.

INDIA.

The services of Captain J. Good, M.B., I.M.S., are placed permanently at the disposal of the Government of Burma.

The following promotions are made, subject to His Majesty's approval :—

Senior Assistant Surgeon and Honorary Lieutenant John Goldsmith (seconded), to be Senior Assistant Surgeon with the honorary rank of Captain (seconded);

Senior Assistant Surgeon and Honorary Lieutenant Arthur George Bowder, to be Senior Assistant Surgeon with the honorary rank of Captain ;

First class Assistant Surgeons Angus Robertson and Robert Brown (seconded), to be Senior Assistant Surgeons with the honorary rank of Lieutenants (seconded) ;

First class Asisstant Surgeon Henry William Foscholo, to be Senior Assistant Surgeon with the honorary rank of Lieutenant,—

vice Senior Assistant Surgeon and Honorary Captain John Augustus De Ressurriecao, retired ; with effect from the 16th November 1907.

No. 89, 2nd class Senior Hospital Assistant, ranking as Jemadar, Rahman Shalomji to be Senior Hospital Assistant, 1st class, ranking an Subadar ;

No. 16, 1st class Hospital Assistant Nur Muhammad to be Senior Hospital Assistant, 2nd class, ranking as Jemadar,—

vice No. 68, 1st class Senior Hospital Assistant Ram-chandra Sakha Ram Deshmukh invalided ; with effect from the 14th October 1907.

No. 751, 1st class Hospital Assistant Wakar Ali, Indian Subordinate Medical Department, Bengal, is permitted to resign the service.

BENGAL.

Third grade Assistant Surgeon Babu Satish Chandra Das is appointed, with effect from the 15th November 1907, to the charge of the Siliguri Subdivision and Dispensary, in the district of Darjeeling, vice third grade Assistant Surgeon Babu Gyanendra Nath Kanjilal, resigned.

The following passed students of the Medical College, Calcutta, are admitted into the service of Government as Assistant Surgeons with effect from the dates mentioned against their names :—

(1) Maulvi Wali Ahmad from 4th October 1907.
(2) ,, Ali Ahmad from 7th October 1907.
(3) ,, Muhammad Sulaman Ashruff from 4th Nov. 1907.
(4) Babu Pratulpati Ganguli from 19th Nov. 1907.

Captain J. Masson, I.M.S., Officiating Civil Surgeon, is transferred from Muzaffarpur to Champaran, with effect from the forenoon of the 8th November 1907.

First grade Assistant Surgeon Babu Kali Prasanna Banerji, attached to the Arrah Charitable Dispensary, held medical charge of the civil station of Shahabad, in addition to his own duties, to the afternoon of the 9th to the forenoon of the 24th October 1907.

Major F. O'Kinealy, I.M.S., acted as Professor of Surgery Medical College, Calcutta and ex-officio Surgeon to the College Hospital, with effect from the afternoon of the 21st December 1906, to the forenoon of the 11th March 1907.

CENTRAL PROVINCES.

Civil Assistant Surgeon Muhammad Abdur Rahim, Khan Bahadur, attached to the King's Hospital, Lucknow, to hold charge of the duties of Assistant to the Civil Surgeon, Lucknow in addition to his own duties, vice Honorary Captain P. McKey I.S.M.D., retired, from the 8th December 1907, as a temporary measure.

Civil Assistant Surgeon Benoy Bhushon Roy, Special Health Officer, Ghazipur, to reserve duty at Ghazipur.

BURMA.

Captain A. W. Greig, I.M.S., made over, and Lieutenant-Colonel R. H. Castor, I.M.S., received charge of the Civil Surgeoncy of Mandalay District on the forenoon of the 20th December 1907.

Captain G. H. Stewart, I.M.S., relinquished charge of the Civil Surgeoncy of Chin Hill District on the forenoon of the 2nd December 1907.

REASONS WHY.

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1. We have a large and highly trained staff of English Qualified Chemists.
2. Our goods are fresh, being prepared on the spot.
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4. Our experience as trained chemists enables us to select drugs with certainty.
5. Being large manufacturers, we are in touch with European houses.
6. We guarantee our products to be of B. P. Standard.
7. There is no waiting for medicines, they are always ready in India.
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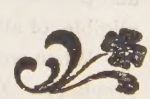

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